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THE NATURE, INCIDENCE AND TREATMENT OF ENDAMEBIASIS *

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For the last twenty-five years, the wide distribution of the endameba throughout the temperate zone has provoked much discussion. One of the most significant reports is that by Kofoid and others,[1] who examined the stools of 1,500 soldiers. They found *Endameba histolytica* present in 3 per cent. of the home service men and in 10.8 per cent. of the overseas men. It is unlikely that the incidence of this ameba is greater in Europe, but the impaired sanitary conditions of actual warfare permitted the 3 per cent. to increase to 10.8 per cent.

I have reviewed the last five years' work in the Mayo Clinic, from 1920 to 1924, inclusive. In this period the endameba was identified in 533 cases; however, less than 5 per cent. of all patients are subjected to stool tests.

INCIDENCE AND GENERAL CONSIDERATIONS OF THE ENDAMEBA

As may be seen by the map, most of the patients come from the Northwestern states, from which the Mayo Clinic draws the greater percentage of its patients. In 1916, Sanford[2] recorded a similar study. This graphic demonstration of the very wide distribution is of the greatest clinical importance. Many of the patients from the Canadian provinces have lived in those sections for years, so that no longer should the possibility of amebic dysentery be disregarded simply because the patient lives north of the Mason and Dixon line. Most of the patients from Oriental countries, Mexico and South America had been aware of the presence of the endameba, but at least 80 per cent. of those from North America had been unaware of the existence of the parasite, and it had seldom been even searched for.

For clinical purposes, three types of the endameba are considered: *Endameba histolytica*, *Endameba coli* and *Endameba nana*. The pathogenicity of *Endameba histolytica* seems definitely established, although at times it may not be producing active symptoms. Its occurrence in "carriers" gives rise to several questions. Many records of amebic abscess of the liver do not contain any history of diarrhea. A carrier is liable to acute dysentery if his resistance should be lowered by a debilitating disease or by a major surgical procedure. As with carriers of any pathogenic organism, they constitute a continual source for the pollution of food or water. The question comes up as to whether *Endameba histolytica* may not be a factor in certain obscure abdominal complaints associated with neurasthenic symptoms. The organism is an obligate parasite which lives and multiplies by invading the host's tissues, so that it cannot be considered entirely innocuous. The eradication of *Endameba histolytica* in the carrier stage is notoriously difficult, and demonstrates the necessity for improvement in therapeutic efficiency.

Endameba coli is usually held to be nonpathogenic, as its occurrence in the stool is not infrequent. Here again there seem to be times when this parasite becomes more active. Several such cases occur in this series. Orticoni and Gazzola,[3] in 1922, submitted a striking illustration of its pathogenicity.

Endameba nana is less thoroughly understood. It is held to be nonpathogenic. It is similar to *Endameba histolytica* except for size and motility. In a few cases in this series, it was the only parasite identified in repeated examinations, but it was not definitely proved to be the sole cause of the diarrhea.

The incidence of the various types of ameba was: *Endameba histolytica*, 511; *Endameba coli* alone, thirteen; *Endameba nana* alone, nine. Frequently they occurred together. Many times the first stool test would reveal only *Endameba coli* or *Endameba nana*, and *Endameba histolytica* was found in further examinations. *Endameba histolytica* was occasionally found associated with *Lamblia intestinalis* (nine patients). It occurred in idiopathic chronic ulcerative colitis in twenty-two. Its presence in thirteen patients with achlorhydria emphasized a valuable therapeutic consideration.

The organisms are dispersed by two main channels, food and water. Food may be infested by washing it with polluted water. In this group, green vegetables are the most common source of trouble. Food may be directly infested by direct contamination, if those who handle foods harbor the parasite. The fly is a potential distributing agent.[4] Many of the patients give a history of spells of dysentery in the family; the outhouse or cesspool is still in evidence and, finally, the well is at a favorable point to receive the sewage. Other patients have contracted the disease on hunting trips through the northern woods, where they drank from small streams. It would be hard to understand the wide distribution of the endameba if one did not realize the importance of water-borne infection.

In order to establish a working basis for the study of endamebiasis, I have separated it into three main groups.

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* From the Section on Medicine, Mayo Clinic.

[1] Kofoid, C. A.; Kornhauser, S. I., and Plato, J. T.: Intestinal Parasites in Overseas and Home Service Troops of United States Army, J. A. M. A. **72**: 1721-1724 (June 14) 1919.

[2] Sanford, A. H.: The Geographical Distribution of Amebiasis, J. A. M. A. **67**: 1923-1926 (Dec. 23) 1916.

[3] Orticoni, A., and Gazzola, M.: Enterite dysenteriforme par amoeba coli, Presse méd. **2**: 1052-1053 (Dec. 6) 1922.

[4] Smith, J. G.: Amoebic and Bacillary Dysentery: A Review of Recent Literature, U. S. Nav. M. Bull. **19**: 423-430 (Oct.) 1923.

Group 1, 153 cases in which active symptoms, dysentery or liver abscess were manifested at the time of admission.

Group 2, 258 cases in which the chief complaint, or one of the complaints, was intermittent spells of diarrhea, sometimes alternating with constipation. Associated with this, there were usually reflex abdominal symptoms, borborygmus and indefinite lower abdominal distress.

Group 3, 122 cases in which the endameba was found without recorded history of dysentery. These were the pure "carrier" cases. They were discovered in the careful study of patients in whom all possible sources of infection were sought which might be factors in conditions such as dermatitis, anemia, and indeterminate intestinal diseases.

METHODS OF INVESTIGATION

The cases were investigated along the following lines: (1) history, (2) stool test, (3) proctoscopic examination, (4) barium enema and (5) gastric test meal.

History.—The patients of Group 1 had diarrhea on admission. Naturally, spells of diarrhea noted in the history, or as the presenting complaint. serve as the first indication. The duration was of no significance as it varied from one week to fifty years. Many patients had been having more or less trouble for from twenty to thirty years. There was a tendency to two or three loose stools a day, usually in the morning, with exacerbations from time to time associated with the passage of blood, pus and mucus.

It seemed noteworthy that in fifty-two cases of typical amebic proctitis in this series, twenty-four occurred in the year 1924. Amebiasis may be growing more prevalent, or this may be merely an accidental occurrence.

The patients of Group 2 had had spells of diarrhea, alternating with normal to constipated movements. Blood or pus was seldom noted. Acton and Knowles[5] believe that *Endameba histolytica* is always associated with minor ulcerations in the colonic mucosa, but in this group repair keeps pace with destruction. Many patients complained of borborygmus, pain over the region of the appendix or gallbladder, and reflex gastric symptoms. Previous diagnoses of appendicitis or cholecystitis were common. Distress in the upper right quadrant of the abdomen is of moment since a hepatic abscess may be forming or the hepatitis, in which the French and English have been particularly interested, may be present. The pain may be referred from the cecum and ascending colon.[6]

The patients of Group 3 are likely to have exacerbations of dysentery following a major surgical procedure or during any debilitating illness, such as influenza.

Stool Test.—The diagnosis depends largely on the identification of the endameba. It is absolutely necessary that the stool should not be allowed to cool before examination. My practice is to examine a freshly passed stool following catharsis induced by from half to 1 ounce (from 15 to 30 gm.) of magnesium sulphate taken before breakfast. In case the first stool is negative, further specimens on successive days are examined. In 340 cases (68.2 per cent.), *Endameba histolytica* was found in the stool on the first test; in 115 cases (23.3 per cent.), it was not found until the second test; in thirty-five cases (6.8 per cent.), it was found in the third test; in six cases (1.2 per cent.), in the fourth test; in one case, in the fifth test, and in two cases, in the seventh test. Thus it shows that a series of three examinations of the stool on successive days insures finding the endameba in 98 per cent. of the cases if it is present. It indicates, equally well, the inadequacy of one examination in 30 per cent. of the cases.

Proctoscopic Examination.—The second most useful aid to the diagnosis of amebiasis is the proctoscopic examination. Patients of Groups 2 and 3 did not have gross lesions of the bowel, so the rectal examination was negative. In the case of ulcerative colitis, however, with the presence of endameba in the stool, the true diagnosis is not made until the proctologist submits his report.

In the cases of typical amebic proctitis, there were varying numbers of discrete, punched-out ulcers with normal mucosa between them, a very decided contrast to the generalized involvement in cases of ulcerative colitis. In a few cases, the stool tests were negative, but the endameba was demonstrated by taking swabbings from the base of an ulcer and washing the material onto a slide.

Barium Enema.—The roentgenogram was of negative rather than positive value. In a few cases at the time of an acute attack, there was a spastic filling defect in the cecum, or the sigmoid was spastic. As it is known that the endameba is most common in the cecum, the local activity during an acute outbreak of colitis tends to produce lesions in the cecum similar to those in the rectum; the roentgenologic findings are the result. This is not a permanent lesion, as the barium enema is negative after treatment. The roentgen ray may reveal a contracture of the rectum and sigmoid in cases of amebic colitis of long standing. The extensive contracture and change throughout the colon which are seen in cases of chronic ulcerative colitis do not seem to occur in true amebic colitis.

Gastric Test Meal.—Treatment may be influenced by the results of gastric analysis. Diarrhea, which has a fairly steady course without gross evidence of ulceration in the bowel, may be more influenced by achlorhydria than by the coexistent endameba. Supplementing the antiamebic treatment with dilute hydrochloric acid will do much to effect complete relief from the intestinal symptoms.

THE PATHOGENICITY OF ENDAMEBA COLI AND ENDAMEBA NANA

There are cases in which only these two parasites are identified, and in which these organisms seem to have become pathogenic, as believed by Orticoni and Gazzola. *Endameba nana* and *Endameba coli* occur so frequently without any associated intestinal symptoms that it seems difficult to consider them pathogenic. I feel that they are parasites which will thrive in sufficient numbers to produce actual symptoms, if the body tissues are altered by factors such as nervous strain, endocrine malfunction, or dietary deficiency. McCarrison[7] has demonstrated the colonic disturbances in monkeys, produced by a deficient diet. Introduction of the endameba, after a course of deficient diet, resulted in an intense diarrhea without ulceration. He believes that the gastrointestinal tract's functional perfection is dependent, to a considerable extent, on adequate provision of the vitamins and salts found in fresh vegetable foods. If the body's resistance and its metabolic processes can be restored to normal, the parasites will be eliminated or will assume their normal nonpathogenic state. The response to treatment with iodin or emetin is nonspecific; the drugs may restore those functions, the disturbance of which has been the primary cause of the disease. The parasites cease to cause trouble when the level of the host's resistance is high enough. To pursue this subject would entail a discussion of the systemic processes that underlie many or perhaps all diseases.

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[5] Acton, H. W., and Knowles, R.: Of Entamoeba Histolytica Carriers, Indian M. Gaz. **59**: 440-444 (Sept.) 1924.

[6] Carnot, Paul: Les colites, Paris, J. B. Baillière et fils, 1923, p. 46. Paisseau, G., and Hutinel, Jean: Hepatitie amibienne chronique, Ann. d. méd. **6**: 50-62 (May) 1919.

[7] McCarrison, Robert: Studies in Deficiency Disease, London, Frowde, 1921, pp. 98 and 104.

In five cases in this series, three or more stool tests showed only *Endameba coli* and in three cases only *Endameba nana*. A few other cases occurred, but only one or two stools had been examined, and no conclusions were drawn. All the patients had spells of diarrhea with from three to twenty stools a day, flatulence, nausea and abdominal pains.

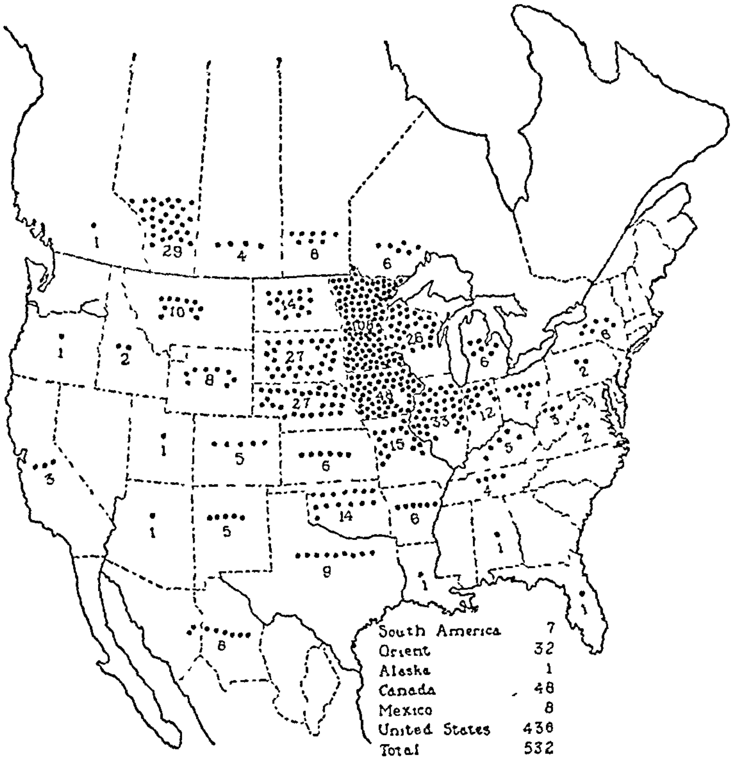
Three of the five patients with *Endameba coli* were treated with emetin, coal oil enemas, and chapparo. One was also given tincture of iodin by mouth. All three responded well to treatment. Two patients with *Endameba nana* received the same course of emetin, and again the results were good, three stools being negative after treatment. Such therapeutic tests are worth something in arguing pathogenicity, but I do not wish to offer them as proof, since repeated examinations might have disclosed the presence of *Endameba histolytica;* but clinically, they must be considered as possible offenders and treated as such in cases of doubt.

TREATMENT

No disease responds so magically as acute amebic dysentery to the first two injections of emetin. Yet the eradication of the parasites, the prevention of recurrences and the overcoming of individual intolerance to forms of treatment constitute a baffling triad. The acute symptoms rapidly subside, but any laxity on the part of either physician or patient paves the way for a relapse. The patient with chronic amebic diarrhea who takes emetin in small doses for a long time[8] seems to become "emetin-fast," a condition comparable to what occurs, for example, in the treatment of *Spirochaeta pallida* with arsenic. Emetin, intravenously, has been suggested,[9] but I have not felt warranted in injecting it directly into the blood stream since the procedure is attended with no small risk.

The remedies for treating endamebiasis are legion: (1) ipecac, either in phenyl salicylate or keratin coated pills, as emetin hydrochlorid for hypodermic use, or in emetin bismuth iodid tablets; (2) fluidextract of chapparo amargoso; (3) tincture of iodin; (4) arsphenamin or neo-arsphenamin; (5) bismuth subnitrate in large doses, and (6) colonic irrigation or enemas of sodium chlorid, kerosene, quinin hydrochlorid, chapparo amargoso, iodo-oxybenzenephyridin sulphonate ("Yatren"), and so forth. Appendicostomy has been performed to afford opportunity for more thorough colonic irrigations, but not in this series. Ipecac, with its active principle, emetin, has formed the background for most forms of treatment, but the multiplicity of drugs shows that the ideal has yet to be found. Subjective relief is rapidly obtained, but to insure the entire destruction of the endameba is another matter. The very nature of *Endameba histolytica* is against this, as the situation of the parasite in the intestinal mucosa affords it protection. The question of reinfection, rather than recurrence, cannot be overlooked. Treatment seems to favor encystment, and the cysts are far more resistant to treatment than the active endameba. In some cases emetin given at intervals during a month seems to retard encystment as well as to destroy the parasite as it passes from the cystic stage.

Arsphenamin and neo-arsphenamin were first introduced in the treatment of amebic disease by Milan,[8] in 1911, who observed a cure of amebiasis while administering antisyphilitic treatment. The organic arsenic offers the same advantage as intramuscular emetin in that it is carried by the blood and excreted through the bowel, or at least circulates through its blood vessels. A more recent form of arsenic, stovarsol, was used in the treatment of syphilis, in 1922, by Levaditi[10] and his co-workers, and in amebiasis by Marchoux[11] in 1924. This drug can be given by mouth, which is the ideal method. Preliminary reports of this drug are favorable, but it will probably be another aid rather than a cureall.



Cases of endamebiasis according to states.

All medication by irrigation of the bowel or enemas is of value, but since the endameba's habitat is the interstices of the mucosa and the submocosa, it is probable that a cure by this method is not theoretically possible. Iodo-oxybenzenepyridin sulphonate,[12] recently suggested by the Germans, is used as an irrigation. It is very expensive and has not been tried in the clinic. In acute cases a bland, nonresidue diet should be given. Fantham[13] demonstrated that skatol, a protein decomposition product, favored encystment of *Endameba coli.* This would suggest that a low protein diet during treatment might aid in preventing encystment.

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[8] Low, G. C.: Emetine Bismuth Iodide in Amoebic Dysentery, Amoebic Hepatitis, and General Amoebiasis, Lancet **1**: 482-485 (March 31) 1917. Milan, quoted by Ravaut, P., and Krolunitsky, G.: Le traitement mixte de la dysenterie amibienne, Paris méd. **7**: 18-24 (Jan. 6) 1917.

[9] Bensaude, R.; Cain, A., and Rachet, J.: Les injections intraveineuses de chlorhydrate d'emetine dans le traitement de la dysenterie amibienne, Bull. et mém. Soc. méd. d. hôp. de Paris **48**: 662-670 (May 9) 1924.

[10] Levaditi, Martin, Fournier, Guenot and Schwartz: Recherches sur l'action curative et preventive de l'acide acetyloxyaminophenylarsinique, Ann. de l'Inst. Pasteur **36**: 729-746 (Nov.) 1922.

[11] Marchoux, E.: Action du stovarsol, Paris méd. **53**: 421-426 (Nov. 22) 1924.

[12] Menk, W.: Weitere Erfahrungen über die Beeinflussung infektiöser Darmkrankheiten durch "Yatren," mit besonderer Berücksichtigung der chronischen Amöbenruhr, München. med. Wchnschr. **69**: 1280-1282 (Sept. 1) 1922.

There are laboratory data concerning the results in 115 of the 197 cases treated at the Mayo Clinic. In many cases treatment was commenced here, but it was completed elsewhere and I have no knowledge of the results. It is logical to assume that the number of those who followed out treatment at home would represent a larger percentage of cures than of failures, since the latter are more likely to be reported. The chief methods of treatment during this five year period were (1) phenyl salicylate coated ipecac pills given in decreasing doses; (2) from 12 to 18 grains (0.8 to 1.2 gm.) of emetin hydrochlorid administered hypodermically in the course of four weeks, supplemented by chapparo amargoso by mouth, and enemas of one quart of kerosene; (3) arsphenamin with or without the preceding; (4) emetin bismuth iodid; (5) bismuth subnitrate or salicylate as a "follow-up" after the course of emetin was completed, and (6) cephalin and adsorbed emetin in a few instances.

Table 1.—*Results of Treatment in Group 1*

	Two to Seven Stool Tests Negative after Treatment		Stool Tests Positive after Treatment	
	Patients	Courses	Patients	Courses
Emetin hydrochlorid, coal oil and chapparo (usually)	23	1	19	2 to 3
Emetin followed by arsphenamin	2	2	1	3
Emetin followed by emetin bismuth iodid	1	2	...	...
Emetin followed by emetin bismuth iodid and arsphenamin	5	2 to 5	1	3
Phenyl salicylate ipecac only	3	1	3	1
Phenyl salicylate ipecac followed by emetin (one with alcresta ipecac)	4	2	...	...
Phenyl salicylate ipecac followed by emetin and arsphenamin	1	3	...	...
Arsphenamin only	2	1	...	...
Total	41		24	

Ipecac or emetin has been the mainstay in treatment, and has given the best results. Its failure may be attributed to too small a dose actually to kill the parasite; its action is on the host rather than on the parasite. The patient and not the drug may be blamed for failure to effect a cure.[14] I have held to the presence or absence of the endameba in the stool as the criterion for failure or cure. Many patients were not able to remain for stool tests after treatment, so that only clinical results could be noted. These results are usually encouraging from the patient's point of view but must not be given too much weight as the only true cure depends on the elimination of the endameba. Of the 533 cases of recognized endamebiasis, only 115 were treated and fully investigated. Of these, sixty-five were in Group 1, forty-five in Group 2, and five in Group 3.

Group 1.—In about 70 per cent. of the cases, the stool tests were negative after one course of treatment; the stools were usually examined at the conclusion of the treatment. In the remaining 30 per cent., from two to five varying courses of treatment were required to effect an apparent eradication. Emetin hydrochlorid was preferred to the phenyl salicylate coated ipecac tablets, as the latter method produced more or less severe gastric symptoms in many patients, and necessitated longer detention in the hospital.

The emetin course was given in forty-two cases (Table 1). There were twenty-three patients apparently cured by this course and nineteen failures. The emetin course had been used first in the treatment of two other patients who were not cured by further treatment and in eight who responded to other drugs. Thus, in the cases of active amebic dysentery treated by emetin either alone or followed by other medication, the drug was effectual in only twenty-three (43 per cent.). It must not be overlooked that this course may have been a definite adjunct in effecting a favorable result in eight other cases.

Too little emetin may have been given. While the average amount administered in the course of four weeks was 12½ grains (0.8 gm.), yet many patients received 18 grains (1.2 gm.). As from 22 to 24 grains (1.4 to 1.5 gm.) has been held to be the maximal dosage of emetin a month before neuritis is produced, I have limited the dose to from 18 to 20 grains (1.2 to 1.3 gm.); if the patient is dismissed, I have advised only from 12 to 16 grains (0.8 to 1 gm.) in a month's course. The neuritis has been produced by as small an amount as 6 grains (0.4 gm.), but the average adult will usually tolerate the larger dosage without such complication.[15]

In ten out of nineteen cases of ulceration there were definite recurrences. The percentage of recurrence might be increased if further data, such as the results of the final examination of the stool, had been available in all cases. The cases of amebic ulcerative proctitis constitute 41 per cent. of the refractory cases.

Group 2.—There are available data in forty-five cases including nine cases of chronic ulcerative colitis with associated amebiasis. Many patients of Group 2 showed evidence of peptic ulcer, cholecystitis or appendicitis, and gave a history of diarrhea. Antiamebic treatment was often instituted first to rule out the relationship of the ameba to the presenting symptoms. Even when the ameba was apparently eliminated, the abdominal symptoms were not always relieved until other conditions had been corrected, as the following cases illustrate:

Table 2.—*Results of Treatment in Group 2*

	Stool Tests Negative after Treatment		Stool Tests Positive after Treatment	
	Patients	Courses	Patients	Courses
Emetin hydrochlorid, usually with coal oil enemas and chapparo amargoso	12	1 to 2	10	1
Emetin hydrochlorid followed by emetin bismuth iodid	3	1 to 3	...	...
Emetin hydrochlorid followed by arsphenamin	1	2	...	...
Emetin followed by phenyl salicylate ipecac	...	...	1	1
Phenyl salicylate ipecac only	4	1	...	...
Phenyl salicylate ipecac followed by arsphenamin	1	2	...	...
Chapparo amargoso only	1	1	...	...
Arsphenamin only	3	1	...	...
Total	25		11	

Case 1.—A woman came to the clinic from Canada, complaining of attacks of upper right abdominal pain associated with spells of diarrhea. *Endameba histolytica* was found in

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13. Fantham, H. B.: On the Amoebae Parasitic in the Human Intestine, with Remarks on the Life-Cycle of Entamoeba Coli in Cultures, Ann. Trop. Med. & Parasitol. 5: 111-123, 1911.

14. Dale, H. H., and Dobell, Clifford: Experiments on the Therapeutics of Amoebic Dysentery, J. Pharmacol. & Exper. Therap. 10: 399-459 (Dec.) 1917.

15. Strong, R. P.: Amebiasis, Nelson's Loose Leaf Medicine 2: 331, 1920.

the stool. A diagnosis of cholecystitis had been made, and operation advised elsewhere. The diagnosis here was probable cholecystitis and endamebiasis. A course of emetin hydrochlorid was given, following which she improved markedly and all symptoms subsided. Operation was not deemed necessary. A letter several months later reported that she was still in excellent health.

CASE 2.—A woman from South Dakota complained of pains and gastric symptoms associated with spells of alternating constipation and diarrhea. Diagnosis of duodenal ulcer and endamebiasis (*Endameba histolytica*) was made. She was given antiamebic treatment. She returned in a year with the same abdominal symptoms, although the stools were now negative for the endameba. Operation for the ulcer was advised.

TABLE 3.—*Results of Treatment in Group 3*

	Stool Tests Negative	Stool Tests Positive
Arsphenamin alone (average four injections)....	7	4
Arsphenamin following failure of emetin (average 24 grains) (average four injections)..........	5	1
Arsphenamin following failure of emetin and phenyl salicylate ipecac........................	1	..
Arsphenamin following failure of emetin and emetin bismuth iodid (36 to 108 grains).......	4	..
Total..	17	5

Both of these cases might be considered favorable, but from the clinical side only one patient was fully benefited by the antiamebic treatment. It is necessary to understand this interpretation in order to evaluate the tables of results, more particularly in cases of Group 2 than of Group 1.

When the history is similar to that in Case 2, it is wiser to try a therapeutic test first, resorting to operative treatment later if necessary. Many cases of "chronic appendicitis" are cured by antiamebic treatment. The endameba, like constipation, may cause the right-sided pain, and operation may be avoided when such a cause is recognized.

In the twenty-five cases (Table 2) the patients were benefited by their treatment, and seemed to be free from the endameba.

In eleven cases (Table 2) the parasite was not destroyed. Twenty-two patients in Group 2 received only the emetin course, and a favorable response was shown in twelve, or 57 per cent. While this percentage is higher than was found in Group 1, the difference is not sufficient to prove either that the infection is less virulent in Group 2 or that the systemic resistance is higher.

There were twenty-two cases of chronic ulcerative colitis with associated endamebiasis. The ameba is not considered to play more than a secondary part in the colitis, but antiamebic measures are justified.[16] There is usually a certain amount of improvement from this treatment. Of the twenty-two cases, treatment eradicated the parasite in the nine in which there are data. A possible pitfall has been mentioned; the disease is or is not ulcerative colitis, depending on the proctoscopic findings, and to a lesser extent, on the roentgenogram of the colon.

Group 3.—This small group of only five cases in which there are data is characterized by diverse symptoms: pernicious anemia, achlorhydria as the only finding, dermatitis and constipation. In three cases the endameba disappeared after courses of emetin and phenyl salicylate ipecac. In two cases, the parasite persisted after 8 and after 21 grains (0.6 and 1.36 gm.) of emetin hydrochlorid. It is of interest to note that in seventeen other patients treated in this group there was no definite clinical benefit, so far as their complaint was concerned, derived from the antiamebic treatment. While one is justified in trying a course of treatment, the prognosis must be guarded so far as relief from symptoms is concerned.

VALUE OF ARSPHENAMIN OR NEO-ARSPHENAMIN

The organic arsenic compounds have been used more and more. In this series, arsphenamin or neo-arsphenamin has been the only form tried. In ten out of eleven cases in which other treatment had been unavailing, the arsphenamin finally eliminated the endameba (Table 3). I believe that this drug in conjunction with one of the emetin group offers a desirable method of attack. Gunn[17] has also had better results with this combined form of treatment.

COMMENT

The effectiveness of treatment measured by the presence or absence of the endameba is summarized from Groups 1 and 2 (Table 4); that is, with regard to the 101 patients about whom there are data, exclusive of the nine with ulcerative colitis.

Comparative results as to the preferred form of treatment are difficult. Further treatment is often effective in eliminating the endameba, so that of the thirty-five cases in which the parasite persisted, some would surely fall in the negative group on more persistent treatment. The most important point is that one course of any form of treatment will be effective in from 60 to 75 per cent. of the cases observed during a year. This figure can be bettered by following up the cases and instituting a change of treatment. The emetin hydrochlorid course is of value in the acute phase, but it should be supplemented by other forms of treatment. Eighty-five patients received the emetin course primarily. In thirty-five (41 per cent.), it seemed to effect a favorable result without other treatment, and was probably an aid in eighteen others. In twenty-nine (34 per cent.), it failed to eradicate the parasite, and further treatment in six more was unavailing.

TABLE 4.—*Results of Treatment in Groups 1 and 2**

	Stool Tests Negative	Persistent Ameba
Phenyl salicylate ipecac..........................	7	3
Phenyl salicylate ipecac followed by emetin......	4	1
Phenyl salicylate ipecac followed by arsphenamin	1	..
Phenyl salicylate ipecac followed by emetin and arsphenamin	1	..
Emetin hydrochlorid	35	29
Emetin followed by	4	..
Emetin followed by phenamin	5	1
Emetin followed by arsphenamin.................	3	1
Arsphenamin	5	..
Chapparo amargoso only..........................	1	..
Total..	66	35

* Excluding chronic ulcerative colitis.

CONCLUSIONS

1. *Endameba histolytica* is "being heard from" more and more throughout the temperate zone. There must be more attention to uncooked foods and the drinking water supply if the disease is to be avoided and controlled.

2. Repeated examinations of stools are essential to the diagnosis of all forms of dysentery. In this series, positive findings occurred in only 68 per cent. of the first examinations but jumped rapidly to 92 and 98 per cent. in the second and third tests.

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[16] Logan, A. H.: Personal communication to the author.

[17] Gunn, H.: Amebiasis: Its Radical Cure with Combined Emetin and Salvarsan Products, California State J. Med. **16**: 240-244 (May) 1918.

3. A proctoscopic examination is absolutely necessary to distinguish amebic ulcerative colitis from idiopathic ulcerative colitis.
4. To establish a cure is exceedingly difficult; repeated tests of the stool must be made over a period of months, and reinfection must be prevented. For that reason, I have been careful to refer only to negative or positive tests after treatment.
5. Ipecac or its derivatives do not seem to be effectual in more than from 58 to 70 per cent. of the cases. Many other authors report similarly.
6. Emetin and arsphenamin seem to be a useful combination.
7. A few cases occurred in which *Endameba coli* was the only parasite found. This and *Endameba nana* may be pathogenic in some cases.
8. It is advisable to persist with the resistant case, rather than to temporize from time to time. The parasite can eventually be eradicated.

ANEMIA IN HYPOTHYROIDISM *

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By means of extirpation experiments and from observations on the effects of administering thyroid gland preparations, it has been shown by Esser,[1] Mansfield,[2] Kishi [3] and others, that: (*a*) after thyroidectomy, dogs and rabbits show a decrease in red cells and hemoglobin amounting usually to about 30 per cent; (*b*) in animals with an experimentally produced anemia, regeneration is retarded by thyroidectomy; (*c*) administration of thyroid gland to normal animals may cause an increase of red blood cells up to 15 per cent. For the purpose of this paper it is not necessary to review these experiments in detail. They indicate that under controlled conditions it can be shown that the thyroid hormone exerts a certain influence on hematopoiesis.

THE THYROID AND HEMATOPOIESIS

Numerous clinical observations (Kocher,[4] Falta,[5] Bence and Engel,[6] Janney and Engel,[7] Hutton [8]) also provide unmistakable evidence that disturbances of the thyroid function may cause slight or marked alteration in the blood picture. Since Kocher's [4] studies it has been known that in hyperthyroidism there is frequently a relative or absolute increase in lymphocytes, diminution of the polymorphonuclear cells and a normal or slightly increased red cell count. Kocher also described leukopenia and prolonged coagulation time. In hypothyroidism, too, blood changes occur with great frequency. The most frequent alteration in the leukocyte formula is a relative or absolute lymphocytosis [9] similar to that which occurs in hyperthyroidism. There may also be a leukopenia and occasionally an eosinophilia.[6] Anemia in hypothyroidism, however, especially anemia *with only slight development* of the familiar signs and symptoms of myxedema, has received very little attention. Textbooks dismiss the matter with a statement to the effect that there is usually or regularly some diminution in red cells and hemoglobin.

In 1883, Kocher [4] reported the results of red cell counts on seventeen patients on whom he had done complete thyroidectomy. The majority of these showed a decrease in red cells which in general paralleled the development of cachexia thyreopriva symptoms. The lowest red cell figure was 2,168,000. Falta [5] and Fonio [10] observed cases of myxemia with moderate or marked anemia, and the latter found that the effect of thyroid therapy in restoring the blood to normal was proportional to the amount of iodin in the preparation administered. These observations dealt with patients in whom clinically obvious thyroid deficiency existed. Unverricht [11] mentions a group of anemias "with clinically noticeable or sometimes only a presumptive hypofunction of the thyroid" (mit klinisch bemerkbarer, manchmal auch nur vermuteter Hypofunktion der Schilddrüse) in which the erythrocyte counts were from 3,030,000 to 3,780,000 and the hemoglobin from 48 to 56 per cent. He makes no mention of the basal metabolic rates of these patients, and clinical details are omitted. He reports an improvement in the blood count on thyroidin treatment. Two recent papers, one by Baker [12] and the other by Warfield and Greene,[13] report cases showing a relation between thyroid deficiency and an anemia resembling chlorosis. These papers will be referred to again. From the cases described below it appears that this chlorotic type of anemia, with relatively high red cell counts and low hemoglobin, is not the only form in which hypothyroid anemia may occur. The clinical resemblance to pernicious anemia may in some cases be close; and, as the following case reports reveal, the familiar symptoms of hypothyroidism may be quite inconspicuous.

REPORT OF CASES

Case 1.—J. C., aged 52, a clergyman, was admitted to the Presbyterian Hospital, April 22, 1921, complaining of weakness with numbness and tingling of the feet and hands which had been increasing for a year. There was nothing significant in the family history. He was born in England, and he recalled having had none of the contagious diseases of childhood. Until eleven years before coming under observation, he had been a missionary in Jamaica and Java. In the tropics he had typhoid, malaria and mild dysentery. Four years before admission, he went to France as chaplain in the Marine Corps. He had a severe war experience but soon recovered his previous vigor. Throughout his life he had been strong and very active.

About a year before admission, he began to tire easily and had to rest during the day. He could not walk more than a few blocks without becoming so tired that he had to sit down, and stair climbing caused unusual breathlessness. He noticed also that he perspired less than he previously had and became more sensitive to cold. His hands and feet were at times cold and numb, and in them he had a tingling sensation. He became irritable and nervous. His appetite diminished, and he noted a distinct change in his complexion. He did not think that there had been any mental impairment, change in weight, or alteration in the quality or quantity of hair. He did not have constipation.

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[1] Esser: Blut und Knochenmark nach Ausfall der Schilddrusenfunktion, Deutsch. Arch. f. klin. Med. **89**: 576, 1907.

[2] Mansfield, G.: Die Blutbild und die Schilddruse I Magyar Orvosi Archivun **13**: 188, 211, 1912; quoted by Unverricht (Footnote 11).

[3] Kishi, K.: Beitrage zur Physiologie der Schilddruse, Virchows Arch. f. path. Anat. **176**: 260, 1904.

[4] Kocher, T.: Das Blutbild bei Cachexia thyreopriva, Arch. f. klin. Chir. **99**: 280, 1912; Ueber Kropfextirpation und ihre Folgen, ibid. **29**: 254, 1883; die Schilddrusenfunktion, Cor-Bl. f. Schweitz. Aerzte, 1895.

[5] Falta, W.: *The Ductless Glandular Diseases, Philadelphia*, P. Blakiston's Son & Co., 1915.

[6] Bence, J., and Engel, K.: Ueber Veranderung des Blutbildes bei Myxödema, Wien. klin. Wchnschr. **21**: 905, 1908.

[7] Janney, N. W., and Engel, H. E.: Concerning the Diagnosis and Treatment of Hypothyroidism, Arch. Int. Med. **26**: 297 (Sept.) 1920.

[8] Hutton, J. H.: Differential Blood Count in Hypothyroidism, Illinois M. J. **45**: 272 (April) 1924.

[9] Kocher (Footnote 4). Hutton (Footnote 8).

[10] Fonio, A.: Ueber den Einfluss von Basedowstruma und Kolloidstrumapraparaten und Thyreodin auf den Stickstoffwechsel und das Blutbild von Myxödem unter Berucksichtigung ihres Jodgehaltes, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **24**: 123, 1911, 1912.

[11] Unverricht: Thyroidea und Erythropoese, Klin. Wchnschr. **2**: 166 (Jan. 22) 1923.

[12] Baker, W. A.: Dysthyroidism, a Factor in Secondary Anemia, J. Kansas M. Soc. **24**: 321 (Nov.) 1924.

[13] Warfield, L. M., and Greene, I. W.: *Hypothyroidism and Its Relationship to Chlorotic Anemia*, J. Michigan M. Soc. **24**: 79 (Feb.) 1925.

The patient was well nourished and mentally alert. The lips were a little blue; the skin of the face was pale and distinctly yellow. The yellowness of the skin was particularly noticeable about the eyes and malar regions, and also on the hands and forearms. The quality, quantity and distribution of hair showed nothing abnormal. The skin was dry and the hands and feet were cold. The general physical examination showed nothing else of significance. The thyroid was barely palpable; neither the spleen nor the liver was enlarged. The reflexes were active. The blood pressure was 100 systolic and 75 diastolic. The temperature varied from 98 to 99.4 F.; the pulse, from 60 to 74, while under observation; the respiration, from 18 to 20. The Wassermann reaction was negative. The blood urea was 0.41 gm. per liter, and the blood uric acid was 4.7 mg. per hundred cubic centimeters. The urine showed no albumin, sugar, casts or bile. No ova or parasites were found in the stool. In the urine there was no urobilin and in the stool only the normal amount. On admission, the blood count was: red blood cells, 3,150,000; hemoglobin, 60 per cent.; index, 0.95. The basal metabolic rate was —44. The blood counts, basal metabolic rates and thyroid therapy of the patient are shown in Table 1 (Case 1).

TABLE 1.—*Record of Blood Counts, Basal Metabolic Rates and Thyroid Therapy in Three Cases*

Case; Name; Age	Date	Hemoglobin (Sahli)	Red Blood Cells	Index	White Blood Cells	Neutrophils	Basophils	Eosinophils	Lymphocytes	Monocytes	Anisocytosis	Poikilocytosis	Nucleated Red Blood Cells	Basal Metabolic Rate	Thyroid, Gm. Daily	Comment
1 J. C. 52 yr.	4/24/21	60	3,150,000	0.95	7,000	43	2	7	42	4	+	+	0	—44	0.06-0.1	
	6/ 6/21	95	4,100,000	1.16	6,700	51	0	6.5	40.5	2	0	0	0	—31	0.15	Marked improvement
	9/ 2/21	..	....	....	.....	..	...	...	..	...	..	..	...	—17	0.15	
	3/20/24	115	5,048,000	1.14	6,300	57	0	6	34	3	0	0	0	— 8		No symptoms
2 M. H. 25 yr.	10/11/23	68	3,350,000	1.01	6,500	68	0	1	29	2	+	+	0	—	—	Wt., 56.9 kg.
	11/ 2/23	62	3,570,000	0.87	5,000	65	4	1	29	1	+	+	0	—18	— 0.06	
	11/26/23	66	4,400,000	0.75	5,400	68	0	1	29	2	+	+	0	—19	0 06-0.3	Improved; Wt., 60.4 kg.
	1/ 7/24	62	4,860,000	0.64	7,000	62	1	0	32	5	±	±	0	— 7	0.3-0.6	Improved; Wt., 59 kg.
	2/12/24	85	5,300,000	0 80	7,600	61	2	1	32	4	±	±	0	—15		
	2/25/24	..	....	....	.....	..	...	...	..	...	..	..	...	— 9	0.5-0.6	Wt., 58.2 kg.
	3/24/24	..	....	....	.....	..	...	...	..	...	..	..	...	— 6		Influenza
	4/28/24	..	....	....	.....	..	...	...	..	...	..	..	...	—10		Much improved
3 J. O. 58 yr.	11/17/24	77	3,770,000	1.02	5,800	48	0	9	38	5	0	0	0	—37	0.1	
	2/28/25	..	....	....	.....	..	...	...	..	...	..	..	...	— 9		
	4/ 3/25	65	4,000,000	....	7,160	59	...	4	36	1	0	0	0	....		Marked improvement

His improvement on thyroid gland administration was rapid and marked. Within a month he was again feeling strong, working from twelve to eighteen hours a day and preaching as many as six times on Sundays. Some months later he went to Haiti and while there took no thyroid for six weeks. His strength failed, he became pale and the old symptoms returned but were less severe than at the outset. Resumption of thyroid administration promptly restored his vigor.

CASE 2.—M. H., a woman, aged 25, single, a graduate student at Columbia University, admitted, Nov. 9, 1923, for eight years had been treated for anemia. The hemoglobin, she said, had usually been between 50 and 60 per cent.; on one occasion, it had been 38 per cent. Symptoms were weakness, palpitation and dyspnea on exertion, sensitiveness to cold, and pallor; her weight had been stationary for several years. The menses were normal; the bowels were not constipated.

The patient was well nourished, pale and mentally alert. Physical examination revealed: eyes prominent but not definitely exophthalmic; ears, teeth and throat normal; no tremor of hands; slight enlargement of thyroid; hair normal in quality, quantity and distribution; no puffiness of face; lungs clear; heart not enlarged; regular and with no murmur; right kidney palpable; liver and spleen not felt; no abdominal tenderness or masses; reflexes active; skin not abnormally dry; no edema. The Wassermann, urine and stool examinations, the roentgenogram of the gastro-intestinal tract and the urobilin excretion revealed nothing abnormal. Gastric analysis showed no free hydrochloric acid; total acid was from 6 to 10. The temperature was a fraction of a degree above or below 98.6 F., while under observation; the pulse was from 80 to 100; the respiration from 20 to 22; the systolic and diastolic blood pressures were 128/60 to 134/70. The blood count was: red blood cells, 3,350,000; hemoglobin, 68 per cent.; index, 1.01; white blood cells, 6,500; polymorphonuclears, 68; eosinophils, 1; lymphocytes, 29, and monocytes, 2. There were slight poikilocytosis and anisocytosis, but no nucleated red cells. The basal metabolism rate was —18.

The record of the blood counts, basal metabolic rates and thyroid therapy of this patient are given in Table 1 (Case 2). Her improvement was slow but definite, and eventually she made, on thyroid treatment, a nearly complete recovery. At the time of admission to the hospital, weakness, palpitation and dyspnea made it impossible for her to continue her university work. After starting thyroid treatment, she returned to work and at the end of the year secured her degree. While under observation, however, she never quite attained a normal capacity for physical and mental effort. The data shown in Table 1 bring out an interesting resistance in her basal metabolic rate to thyroid administration; on 0.6 gm. of thyroid a day her rate was —15; before starting thyroid it was only —18. That this was not due to imperfect absorption from the gastro-intestinal tract only seems to have been shown by the occurrence of tremor and palpitation when taking this amount, and also by the striking improvement in the blood count. It is also of interest that her weight increased while taking thyroid.

CASE 3.[14]—Mrs. J. O., aged 58, for seven years had increasing weakness, loss of appetite, failing vision, great sensitiveness to cold, increase in weight and mental deterioration. Examination showed obesity, lemon yellow pallor and puffy face, and slow, unsteady movements. The skin was dry and the hands were cold. The axillary hair was absent, and the scalp was covered by a thin growth of hair. The thyroid was not enlarged; there was slight pitting of the ankles. The blood count was: red blood cells, 3,770,000; hemoglobin, 77 per cent.; index, 1.02; white blood cells, 5,800; polymorphonuclears, 48; eosinophils, 9; lymphocytes, 38, and monocytes, 5; there was no poikilocytosis, anisocytosis or nucleated red cells. The basal metabolic rate was —37.

Additional data are shown in Table 1 (Case 3). Obviously this patient had very definite symptoms of myxedema; the record is included in this report only because anemia was the outstanding clinical fact.

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[14] I am permitted to include the record of this patient through the courtesy of Drs. Paul Sheldon and Albert Lamb.

COMMENT

It is of interest that in all three of these patients a diagnosis of pernicious anemia had been made prior to determination of the basal metabolic rate. The age of occurrence of this anemia in association with a yellow tinging of the skin, the hemoglobin index near or above 1.0, paresthesia of the hands and feet and none of the usual causes of secondary anemia demonstrable, constitute a group of clinical facts arousing at least a suspicion of primary anemia. Only one of the three patients had a gastric analysis, and this examination showed an absence of free hydrochloric acid. In two of the patients, urobilin excretion was determined and showed no increase. That the anemia of these patients was not merely a concomitant of the hypothyroidism and due to some other unrecognized cause is a conclusion justified by the effects of thyroid therapy, which was the only form of treatment employed. No iron, arsenic or transfusions were given. For differential diagnosis, the symptoms of sensitiveness to cold, diminished perspiration, a yellow tinge of the skin about the eyes and malar regions are important. Determination of the basal metabolic rate and the urobilin excretion supply, however, the most essential data for a diagnosis.

Table 2.—*Blood Counts in Hypothyroidism*

Number	Age	Sex*	Basal Metabolism	Hemoglobin	Red Blood Cells	Index	White Blood Cells	Neutrophils	Basophils	Eosinophils	Lymphocytes	Monocytes
4	63	♀	—34	90	4,400,000	1.02	9,700	64	1	0	27	8
5	23	♂	—24	80	5,300,000	0.75	10,400	67	2	1	24	6
6	45	♂	—38	85	5,080,000	0.83	6,900	68	0	0	24	8
7	51	♂	—20	80	4,740,000	0.84	6,800	63	0	0	33	4
8	15	♀	—28	88	4,000,000	1.1	9,000	45	0	3	47	5
9	49	♀	—21	70	4,400,000	0.79	9,700	40	0	1	56	1
10	33	♀	—16	110	4,600,000	1.19	11,000	64	2	0	29	5
11	27	♀	—15	105	5,260,000	1.0	5,500	77	0	0	21	2
12	17	♀	—30	78	4,500,000	0.87	6,500	51	0	3	42	4
13	13	♂	—35	60	3,350,000	0.83	8,800	75	0	0	25	0
14	57	♀	—38	80	5,100,000	0.78	7,600	71	0	1	24	4
15	25	♀	—29	100	5,000,000	1.0	7,600	75	1	0	18	6
16	52	♀	—18	88	4,270,000	1.03	6,900	60	0	2	34	4
17	67	♂	—15	95	5,100,000	0.93	5,600	56	0	1	29	14

* In this column, ♂ indicates male; ♀, female.

A recent paper by Baker[12] reports clinical observations on a 16 year old girl apparently suffering from hypothyroidism and anemia, but no basal metabolism determination was recorded and the therapy on which the anemia cleared up included iron, arsenic, hydrochloric acid and desiccated suprarenal in addition to thyroid gland. Baker calls attention to the occurrence of a severe form of anemia in cases of thyroid insufficiency and the possibility of rapid improvement on thyroid therapy. His observations led him to consider it more likely to occur in adolescents than in adults and to be characterized by a more marked decrease of hemoglobin than of the red cells.

A few months ago a paper by Warfield and Greene[13] appeared, describing cases of a chlorotic type of anemia associated with slightly lowered basal metabolic rates (from —10.5 to —18.5) and very little clinical evidence of hypothyroidism. In all except one of their patients, there was little or no diminution in the red cells but a considerable or marked lowering of the hemoglobin percentage. Several of their patients showed definite improvement, on thyroid therapy. The patient described by Baker and those of Warfield and Greene, except possibly Case 8 in their series, represent a somewhat different form of anemia from that which has been noted in the cases I have described. Their patients were young persons and had blood changes similar to the chlorotic type of anemia.

In Table 2 are shown the blood counts and basal metabolic rates of fourteen cases of hypothyroidism treated in the Presbyterian Hospital during the last six years. None of these had taken thyroid before the blood examination and basal metabolic rate determinations. The single patient with a red cell count below 4,000,000 was a boy with a pluriglandular picture having quite definite evidence of the Frölich syndrome in addition to thyroid insufficiency. The table serves to show that in the great majority of cases of hypothyroidism anemia is not a prominent feature.

Concerning the mechanism of hypothyroid anemia very little can be said. Possibly it is simply a manifestation of the effect on the bone marrow of the sluggish oxidation occurring in all the tissues. But if this were so, one would expect that a large percentage of cases presenting low basal metabolic rates would show a well marked anemia, and from Table 2 and numerous previous observations by others it is seen that this is not the case.

CONCLUSIONS

Two of three patients with hypothyroidism in whom an anemia was the most conspicuous clinical fact had no or very slight characteristics of myxedema, such as increase in weight, puffiness of the face and thickening of the skin, mental impairment, alteration in quality and quantity of hair and constipation. The most conspicuous symptom was weakness; sensitiveness to cold, decreased perspiration, paresthesia of the extremities, palpitation and dyspnea on slight exertion were also noted. The pallor of these patients may be characterized by a distinctly yellow tinge, particularly noticeable about the eyes and malar regions. One patient showed an absence of free hydrochloric acid in the gastric contents. The blood picture suggested primary anemia, but alteration in the size and form of the red cells was slight or entirely lacking in the patients observed, and there was no increase in the urobilin excretion. The basal metabolic rate before treatment was between — 18 and — 44. Treatment with thyroid gland was followed in one case by a prompt and complete recovery and in two others by marked improvement. From these three cases and from those reported by Warfield and Greene, it is clear that thyroid deficiency occasionally causes severe anemia resembling either chlorosis or primary anemia, without proclaiming itself by the usual signs and symptoms of myxedema.

41 East Seventieth Street.

Prostatic Obstruction.—The idea of burrowing a channel through the prostate in cases of obstruction to the outflow of urine is probably as old as the hills. . . . In 1834, Guthrie invented a catheter containing a concealed blade for dividing the bar at the neck of the bladder; and in 1876, Bottini of Pavia introduced his galvanocautery incisor with the aim of preventing hemorrhage.—Hammond, T. E.: *Brit. M. J.*

THE MANAGEMENT OF PERSISTENT OCCIPITOPOSTERIOR POSITION

BY USE OF THE KIELLAND FORCEPS OR MANUAL RECTIFICATION *

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Great diversity of practice and teaching exists among obstetric specialists in regard to occipitoposterior position in labor. This lack of uniformity in textbooks and handbooks on obstetrics and in papers in obstetric and medical journals may account in part for the unsatisfactory management of this cause of high maternal morbidity and fetal mortality in hospital and private practice.

There should be but one definition of persistent occipitoposterior position. It is the condition that results in skull presentation from the rotation of the occiput backward toward the sacrum. This occurs only when the head enters the pelvis with the occiput more or less posterior to the transverse diameter of the pelvis. The usual or normal anterior rotation of the occiput in all presentations, including the oblique posterior, may occur at any stage of descent, even before complete dilatation of the cervix; but when the occiput is more or less posterior at the inlet, rotation generally occurs or is completed about the time that the presenting part has reached the straits or plane of the ischial spines and when the dilated cervix is being pulled up over the head. If there is rotation neither forward nor backward at this stage, we call the condition a deep (transverse) arrest. If, on account of extension, the sinciput is lower than the occiput, it may be rotated anteriorly and the occiput posteriorly. A weak pelvic floor also favors this abnormal rotation or a deep arrest, and there are other factors which we need not consider at this time. What I wish to emphasize is that we cannot speak of a persistent occipitoposterior position until after the descending head has had the chance to rotate normally and has been prevented from doing so by obstacles not to be overcome, at least within a reasonable time.

It is true that cases have been reported in which the head has entered the pelvis with the occiput posterior. These are very rare and may be left out of consideration.

It may happen that the head enters the inlet with the occiput right or left posterior and meets with some hindrance to descent before it reaches the pelvic floor. Here we have dystocia due to failure in translation or descent. This might be called a high or inlet arrest, and the case should not be classed with cases of persistent occipitoposterior position or deep arrest. If indications for intervention arise from either the mother or the child, rules similar to cases of occiput right or left anterior position must govern. If forceps are applied, they should be high or inlet forceps and must be used at first as tractors. After the head is brought into the excavation, they may be used as rotators. For failure in descent, the Kielland forceps are the only reasonable kind to use, if the forceps operation is chosen. Like all high forceps, however, they are dangerous. In all kinds of inlet arrest, we have to make a difficult choice between high forceps and podalic version, pubiotomy and cesarean section.

It has been proposed, in these cases, to rotate the head and body by pushing the head above the inlet and rotating it with the hand in the uterus; then, inserting the hand still higher to grasp a shoulder and with the aid of the external hand rotate the trunk; and, finally, holding the head in a right or left anterior position, to apply the high forceps as well as possible to the head. This maneuver is better than the old method of applying the forceps to the sides of the pelvis with the occiput posterior, but it has been rendered unnecessary by the Kielland forceps, which can be applied to the head even in the inlet. Hence I would reaffirm the statement that in inlet arrest the choice of intervention, if such is absolutely necessary, is among high Kielland forceps, version, pubiotomy and cesarean section. The particular indication for each I do not consider germane to my strictly limited subject.

The frequency of the occurrence of persistent occipitoposterior position has been estimated very differently by different authors, from a fraction of 1 per cent to 8 or 10 per cent of all labors. Likewise, the primary inlet positions and the frequency of anterior or posterior rotation vary greatly according to different writers. The chief reason for this difference in the statistics of primary positions is that satisfactory internal examinations are not made at the beginning of labor. The position of the back can be determined with considerable accuracy by palpation and auscultation, but we cannot be certain that the position of the head as determined by the occiput is the same as that of the trunk as determined by the back. It is also difficult or impossible before some dilatation of the cervix to determine the landmarks of the fetal head through the rectum, and this is the only method of examination that would now be considered proper as a routine in a great number of cases. Hence there will always be considerable uncertainty regarding the primary positions and the frequency of rotation backward of the primary posterior positions.

Frequency of Inlet Positions at Beginning of Labor

Left occipito-anterior	55%	70%
Right occipito-anterior	15%	
Left occipitoposterior	10%	30%
Right occipitoposterior	20%	

From my own experience and from figures given by those who have made examinations early in labor, I have made the accompanying table, which, I believe, corresponds approximately with the facts. In this table I have included with the left occipito-anterior and right occipitoposterior positions the transverse left occipito and right occipito positions, respectively, agreeing with De Lee and others that the inlet transverse positions are not uncommon.

Of this 30 per cent of primary posterior oblique positions, about four fifths of the cases rotate anteriorly spontaneously, while in the remaining 6 per cent of all labors the rotation is posterior and remains persistently posterior. Of these, probably about 3 per cent are in women who have large pelves, who have very strong uterine contractions, or who have small children that are delivered spontaneously with occipitoposterior position causing no marked dystocia. The remaining 3 per cent require aid and form the cases to be considered in this paper.

Before the management of persistent occipitoposterior position is discussed, the mechanism of spontaneous labor in those cases that terminate without rotation should be reviewed. Here the head descends, through the straits into the obstetric outlet and is expelled from the vagina in one of two ways. If the extension of the head persists, the glabella impinges against the symphysis, which becomes the hypomochlion, and the occiput is pushed over the perineum when the brow and face pass from under the symphysis. If the occiput is pushed through the straits and comes to rest on the perineum in the obstetric outlet, while the sinciput remains stationary, a marked flexion occurs. Then the bregma rests against the symphysis, while the occiput is born over the perineum, and the sinciput, brow and face appear at the front. The latter mechanism is obviously much more favorable, as it allows the passage of the head through the vulva in the occipitobregmatic circumference, which is considerably less than the occipitofrontal circumference that must pass in the other mechanism. It is important to remember this, if we should attempt to extract with forceps a head in occipitoposterior position, in order that by proper manipulation we may flex the head and imitate the favorable spontaneous mechanism.

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* Read before the Chicago Medical Society, Oct. 28, 1925.

The chief danger in occipitoposterior position seems to lie in the failure to diagnose the condition. While a mistake may be pardoned when only external and rectal examinations are made, there is no excuse for a mistake when a vaginal examination is made and especially when intervention is attempted. If one is uncertain of the presenting part, on account of a large caput succedaneum, it is always possible to reach an ear, which will give a clear orientation.

The most striking finding in these cases while the head is in the excavation is its extension. In the center of the cervical os is the bregma or the sinciput. Later, when spontaneous labor is to occur and the head descends through the straits distending the perineum, flexion may take place, as has already been described; but these cases do not concern us as they do not belong to the 3 per cent that require intervention.

POSSIBILITY OF PREVENTING PERSISTENT OCCIPITOPOSTERIOR POSITION

Before proceeding to a discussion of the proper management of persistent occipitoposterior position, I should first consider the question whether there is any way to prevent this pathologic condition—any prophylactic treatment. Whatever will favor flexion of the head will favor rotation. It is a very old rule to have the patient lie on the side to which the occiput points. This can do no harm and may help a little. Another suggestion that has been made is to rotate the trunk by external manipulations, changing the back from a posterior position to an anterior. This attempt may also be made but, according to my experience, promises little and, like vain attempts at external version, may not be entirely harmless. During labor, in the stage of descent, any attempts at internal manipulations are not only useless but dangerous. The best rule for management in posterior oblique position is nonintervention until the head has reached the pelvic floor and the cervix has dilated. The descent will probably take no longer than in an anterior oblique position. Varnier found that labor was on an average two to three hours longer in the posterior oblique than in the anterior oblique position. This prolongation of labor is due to lengthening of the stage of rotation rather than to that of descent, complete dilatation of the cervix generally being necessary for the long rotation while not so important in the short rotation of anterior oblique position. Allowing, then, for this prolongation of labor, we support the patient with psychic help and if necessary with analgesia. Bill of Cleveland voices the opinion of those who contend that it is the function of obstetricians to save the patient from needless pain and exhaustion, and he advocates intervention as soon as the head reaches the pelvic floor and the cervix is dilated. To this rule there can be no great objection, provided we emphasize the need of *complete* dilatation. We all know from experience that many physicians call the cervix dilated when there still exists a rim an inch or more wide. The head should be out of the cervix for rotation; it should not be confined at all by a cervical band. If this stage has been reached and if good contractions for one or two hours fail to rotate, we are justified in intervening.

METHODS OF INTERVENTION

Of the various methods of intervention that have been proposed and used more or less for many years, we can now, I believe, eliminate all but two; namely, manual rotation and rotation and delivery by the Kielland forceps. Version with the head in the pelvis is absurd. Forceps applied with the pelvic curve to the front corresponding to the face of the child and used as tractors, pulling the head out with the occiput posterior, although recommended by some well known authors, are productive of serious unnecessary tears.

Occasionally it is possible to convert an occipitoposterior position into a face position by forceps with the pelvic curve directed forward. I believe that all these methods may be discarded in favor of those here advocated.

The other methods of intervention propose to rotate the head, bringing the occiput anterior. This may be done by the Scanzoni maneuver, which is still widely practiced and taught by some of our best authorities. I consider it a third choice. If this method is chosen for any reason, perhaps because of the failure of manual rotation and the lack of Kielland forceps at hand, it is important to remember two or three points in the technic. The forceps should be applied, as in nearly all cases of forceps application, in the mento-occipital diameter of the head. Then the handles should be raised to secure good flexion of the head, thus making the circumference of the head to be rotated as small as possible. At the same time the head may be pushed up slightly if it has become impacted in the pelvic straits. This motion will also help to release the shoulders, if they have descended sufficiently into the inlet to impede rotation. Then the handles of the forceps are swept around in the well known circle that allows the blades to turn on their own axis. During this procedure an assistant may try to help in rotating the trunk. It is desirable, as Bill has pointed out, to make the rotation complete until the sagittal suture is in the anteroposterior diameter of the pelvis. Then the forceps are removed and, if their use is necessary to extract, immediately reapplied to the head, as in the usual occiput anterior position.

MANUAL ROTATION

In probably three fourths of all cases of persistent occipitoposterior position, rotation can be made with the hand. Manual rotation should be attempted in all cases before resorting to forceps as rotators. The points to be emphasized in this maneuver are, first, that the head should be flexed as much as possible to reduce the circumference of the ball or cylinder to be rotated; second, the rotation should be made within the excavation, not allowing the head to be pushed up out of the pelvis as is wrongly taught by some writers; and third, an attempt should be made to rotate the trunk and extremities. The actual procedure is as follows: The patient is given a few whiffs of gas, the hand antonymous to the original lateral position of the occiput, that is, the left hand, when the head entered the pelvis in the right occipito position, is introduced into the vagina and grasps the back of the head, the four fingers applied toward the posterior ear and the thumb toward the anterior ear. The occiput is then pulled down, while the entire head may be raised a little to disengage the shoulders if they have descended into the inlet. Sometimes it is best first to push up on the sinciput with the ends of the approximated fingers and thumb and later grasp the occiput. Then an effort is made to pull the occiput to the front and to push the sinciput to the rear. If we are successful in bringing the occiput in front of the transverse diameter, we hold it there until a pain comes and aids in further rotation. If there is a condition of uterine inertia, we may stimulate a contraction by the injection of 2 minims (0.12 cc.) of pituitary extract. The head must remain in place until rotation is complete and a few contractions have begun to adapt the head to its new position. If it is necessary to deliver the child immediately, we may apply forceps in the usual way after rotation is accomplished.

USE OF KIELLAND FORCEPS

When manual rotation succeeds, we have secured delivery with practically no risk to mother or child. Unfortunately, all must admit failure in some cases. Here the Kielland forceps can always be relied on and with less risk of injury than with other instrumental procedures. The main points in technic are as follows: The forceps are held in the position they will occupy in the pelvis, the short pelvic curve being directed toward the occiput. As the head should be grasped in the mento-occipital diameter, it will be necessary to direct the handle of the forceps rather far backward and to the right or left side, according to the lateral position of the occiput. Then the blades are introduced one after the other under the guidance of the respective hands inserted into the vagina at the side of the head. The posterior blade is introduced easily. The anterior blade requires more adjusting, but it is not necessary or desirable to use the technic advised for the high forceps; i. e., the introduction with the concavity forward and then rotation of the blade. The blades are adjusted so as to seize the head in the right diameter, and the handles are raised to flex the head and then rotated to bring the occiput into the anterior position. No traction is made, and sometimes at the beginning the head is pushed up a little. To assist in keeping the head flexed, it may be desirable to insert the fingers and press up on the sinciput. When the rotation is complete, the forceps are in position to make traction, and the head is delivered as with any other forceps.

SUMMARY

1. Persistent occipitoposterior position occurs only after the head has descended into the excavation. A primary occipitoposterior oblique position above, at the inlet or during descent is not abnormal, and rotation anteriorly occurs in 80 per cent of all such cases. No attempt should be made to rotate at this stage. If intervention becomes necessary, we may have to choose among a high forceps version, pubiotomy or cesarean section. If a high forceps is selected, the Kielland forceps is the best instrument to use, but it is used first as a tractor, and not until the pelvic floor is reached is rotation attempted. This problem of aiding descent, however, is quite different from that of managing occipitoposterior rotation and should not be confused with the latter. Premature intervention with spontaneous descent in either the occiput oblique posterior or anterior position is to be deprecated, for all high forceps operations are the most serious of obstetric operations.

2. After descent, complete dilatation of the cervix is generally necessary for the long or anterior rotation. Hence artificial rotation should not be attempted until this is secured.

3. In persistent occipitoposterior rotation, as well as in persistent deep transverse arrest, we should first attempt manual rotation, remembering that changing the extension attitude into a flexion is always of the first importance.

4. In case of failure with manual rotation, the Kielland forceps should be applied with their pelvic curve toward the occiput and in the long occipitomental diameter. Then the head should be flexed and rotated, after which the head is delivered in the usual way.

5. If manual rotation fails and no Kielland forceps are at hand, we may use a Naegele or Simpson forceps in the Scanzoni maneuver, remembering, however, to apply them in the occipitomental diameter and to flex the head before rotating.

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SIMULTANEOUS CHOLECYSTOGRAPHY AND TESTS OF HEPATIC AND RENAL FUNCTIONS

BY A SINGLE NEW SUBSTANCE, SODIUM PHENOLTETRAIODOPHTHALEIN: PRELIMINARY REPORT *

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AND
SHERWOOD MOORE, M.D.
ST. LOUIS

Since the beginning of our work on cholecystography,[1] an effort has been made to find a substance which would not only prove practical for visualizing the gallbladder but which would also give sufficient color to the blood serum to permit the use of it for a test of hepatic function, in a manner similar to the test devised by Rosenthal[2] with the use of phenoltetrachlorphthalein. It will be recalled that Rosenthal improved the previous method of use of this substance by noting the amount of the dye retained in the serum after given periods instead of the amount which passed into the stools. His principle, therefore, was to estimate the hepatic function by determining the amount of dye that failed to pass through the liver in a given time instead of by determining the amount that actually passed through.

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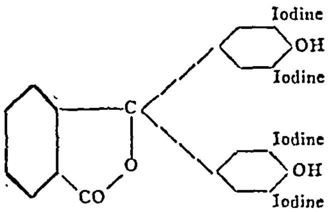
* Aided by a grant from Edward Mallinckrodt, Jr.

* From the Departments of Surgery and Radiology, Washington University School of Medicine and Barnes Hospital.

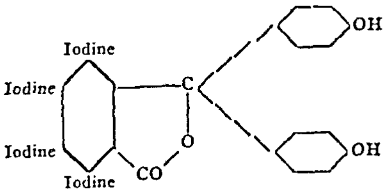
[1] Graham, E. A., and Cole, W. H.: Roentgenologic Examination of the Gallbladder: Preliminary Report of a New Method Utilizing the Intravenous Injection of Tetrabromphenolphthalein, J. A. M. A. **82**: 613 (Feb. 23) 1924.

[2] Rosenthal, S. M.: An Improved Method for Using Phenoltetrachlorphthalein as a Liver Function Test, J. Pharmacol. & Exper. Therap. **19**: 385-391 (June) 1922.

After we found that cholecystography was a practical procedure when we used salts of various phenolphthaleins containing bromine or iodine atoms, it seemed logical to make attempts to determine also if these substances could be used for tests of hepatic function by estimating colorimetrically their amounts retained in the blood after alkalizing the serum. The substances, however, which we have used chiefly for cholecystography have been tetra-iodophenolphthalein and tetrabromphenolphthalein. These substances do not stain the serum sufficiently to be easily recognizable in it even after alkalization. This fact is in conformity with the general rule that in this group of substances the intensity of color of the dye depends largely on the location of the halogen atoms. There are two isomeric groups of halogenated phenolphthaleins; in one group the halogen is attached to the phthalein part of the molecule, and in the other group it is attached to the phenol ring. The former group of isomers possesses the more intense color. It was the recognition of this fact that led Abel and Rowntree[3] and the other early workers with the use of dyes as functional tests to use phenoltetrachlorphthalein instead of its isomer, tetrachlorphenolphthalein. Herewith are given the structural formulas of the two isomeric iodine compounds.



Structural formula of tetra-iodophenolphthalein.



Structural formula of phenoltetra-iodophthalein.

It was only natural, therefore, after finding that tetra-iodophenolphthalein was a safe and practical agent for rendering the gallbladder visible, that we should turn to its isomer, phenoltetra-iodophthalein, as a substance which might make possible the simultaneous performance of a test of hepatic function and cholecystography.

In an article published last September,[4] we reported that good cholecystograms could be obtained with this substance. Unexpected difficulty, however, was encountered in the preparation of this substance in satisfactory quantity, and this has delayed the progress of the investigations of it as a means of testing hepatic function.[5] We are now prepared to state, however, that the sodium salt of phenoltetra-iodophthalein not only makes possible the visualization of the gallbladder apparently as well as its isomer, sodium tetra-iodophenolphthalein, but it also stains the serum sufficiently to enable its detection after alkalization. Probably the same principles of technic can be applied to its quantitative recognition and to the evaluation of the results as are used in the Rosenthal test. The color obtained, however, is slightly more purple than that due to phenoltetrachlorphthalein.

Roentgenograms of the gallbladder of maximum intensity have been obtained within four hours in normal subjects after intravenous injection of 0.055 Gm. per kilogram of body weight. No general toxic reactions have occurred so far in any of the patients who have been injected, but there has been a slightly greater tendency to venous thrombosis at the site of injection, although apparently this complication can be obviated by washing out the vein with physiologic sodium chloride solution immediately after the injection. We do not feel that we yet have sufficient knowledge to recommend the use of this substance as a substitute for sodium tetra-iodophenolphthalein for cholecystography, and we are presenting this information only as a preliminary report. It is possible, however, that further work with it will show that because of possibly faster excretion through the liver, it will shorten the time now required for a cholecystographic examination by the use of sodium tetra-iodophenolphthalein. It may also be possible to secure equally good cholecystograms with much smaller doses of this substance and thereby to eliminate practically all toxic symptoms.

We have not yet tried giving it to patients by mouth because we have not yet been able to obtain enough of it to carry out any more than preliminary observations. It seems reasonable to expect, however, that this substance would prove just as satisfactory for oral administration as sodium tetra-iodophenolphthalein. It is, of course, not yet certain what advantage there may be to the fact that, by means of sodium phenoltetra-iodophthalein, hepatic functional tests can be performed in addition to cholecystography. The ultimate appraisal of the value of tests of hepatic function based on the excretion of dyes by the liver seems uncertain in view of the conflicting literature. Another feature of sodium phenoltetra-iodophthalein is that, in addition to being excreted in sufficient amount through the liver to give excellent cholecystograms, it is also excreted sufficiently through the kidneys to enable its recognition colorimetrically in the urine after alkalization. Thus, it seems probable that by the use of a single dose of this substance simultaneous observations can be made of the renal function, of the hepatic function and of the condition of the gallbladder, a combination of observations which hitherto has been impossible with a single substance.

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[3] Abel and Rowntree: On the Pharmacological Action of Some Phthaleins and Their Derivatives with Special Reference to their Behavior as Purgatives, I, J. Pharmacol. & Exper. Therap. **1**: 231, 1910.

[4] Graham, E. A.; Cole, W. H.; Moore, Sherwood; and Copher, G. H.: Cholecystography: Oral Administration of Sodium Tetra-Iodophenolphthalein, J. A. M. A. **85**: 953-955 (Sept. 26) 1925.

[5] The sodium salt of phenoltetra-iodophthalein which we have used in this work was prepared for us by the Mallinckrodt Chemical Works of St. Louis.

Hysteria.—In general, one may say that puberty is the favorite soil for hysterical reactions and infantilistic inhibitions of development; and, especially with the persistence of early pubertal psychic stigmas, most easily give, in addition to the severer psychic defect forms, the nucleus for many "hysterical characters," i. e., for personalities with constant inclination to hysterical reactions. Hysteria is above all a reaction-form "of naive ,undeveloped psychic life" (Kraepelin) of a strongly instinctive, impulsive structure. In the degree that a person separates himself from a primitive condition, or from a youthful age, does hysteria receive the exclusive character of a severe pathologic abnormality on the basis of degeneration; and even this only when an extremely severe experience is not to be considered.—Kretschem, Ernst: Hysteria.

FACTORS INFLUENCING APPENDICITIS MORTALITY

RESULTS IN ELEVEN THOUSAND FOUR HUNDRED CASES

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The possible reasons for the present recorded mortality resulting from appendical infections and inflammations and their surgical treatment merit continued discussion and study. There is pressing need for the observance of pertinent factors that have a definite bearing on the end-result and the mortality that is encountered. There is an apparent laxity, nearly bordering on indifference, as to our attitude toward this surgical entity. Ochsner, whose name will ever be associated with appendicitis, in one of his last discussions of this disease and its treatment, remarked that nowadays almost any one attempted to perform an appendectomy, and if the disease was in its early stage, with the aid of modern surgical asepsis, his surgery resulted in a recovery. Ochsner further said that when one is confronted with the complications that do occur, when the condition is more than a simple inflammation, then the end-result and a low or a high mortality are dependent on the judgment, experience and skill of the operating surgeon. That is apparently the crux of our appendicitis mortality today—the judgment, experience and skill of the surgeon

Judgment, skill and experience result only as one encounters with reasonable frequency the various types of appendical involvements. Those qualifications will even then be but mediocre in degree unless the surgeon pauses from time to time and subjects his experiences to a hypercritical censoring and the formulation of deductions that shall create principles that govern his work for the purpose of avoiding the errors that make for increased mortality or complicated recoveries We need to check up on ourselves from time to time and, having done so, we must compare our work with that which is reported from other surgeons and other hospitals That is the justification for articles such as this, for thereby there is made available, if a sufficient number of similar studies are made by other surgeons, comparative figures and factors that will create acceptable standards for appraisals.

The deductions contained herein are based on 227 cases of appendicitis, which are added to 100 cases previously reported on and which impart the results of personal contact and surgical care of the patients. The condensed statistics of the 327 cases are given in table 1.

Recognizing from reports encountered that in certain localities, in fact, in many communities and hospitals that were not connected with colleges or clinics wherein there had been established teams of trained assistants, that the mortality rates exceeded by 2 and 3 per cent the customary quoted one, I undertook to collect the reports of a number of hospitals in several states as well as in our own state and secured the replies given in table 2.

SUMMARY

1 The apparent average mortality in acute appendicitis is 4 23 per cent

2 The average operative mortality for removal of a chronically inflamed appendix is 1 68 per cent

3 These figures are based on reports from thirty-five hospitals located in eight states, reporting 11,400 cases of appendicitis.

CONCLUSIONS

The question now becomes pertinent: On what does mortality depend and what are the outstanding factors that have potential bearing on it? Personal experience causes the formulation of the following conclusions:

Diagnosis—The making of an early diagnosis and bringing the patient to early operation are of primal importance. Diagnosis that is made late is not, I admit, always chargeable against the physician, for quite frequently medical advice is not obtained until some hours or days have elapsed since the onset of the attack On the other hand, there are too many instances wherein we have been careless and have not properly examined the patient, and it is not uncommon to find that the patient's condition is not suspected as one of acute appendicitis until a second or third visit is made

Likewise there are some who withhold a diagnosis because the symptoms are not always the classic ones Pain, followed by nausea or vomiting, is present in every case, but the degree of pain and the amount of nausea or vomiting are not always distinctly prominent In some cases we have seen a total absence of vomiting and only a mild nausea and have encountered at operation a gangrenous appendix. Muscular rigidity is likewise not always pronounced, and so too is the exact location of the pain not always found directly over McBurney's point They vary in degree and in locality and at times are very indefinite Temperature and pulse may be normal, and a very markedly involved appendix will be disclosed. When temperature and pulse give rise to alarm, the local condition is one that has become far advanced. We have long since ceased to be influenced because there was no temperature elevation, or only a fraction of a degree, and because the pulse bordered on the normal. It is quite the rule, however, that a normal, or 99, temperature will be associated with a pulse that is from 85 to 100 or even higher in rate and does aid in forming a diagnosis Still, these are not important influencing factors in making the diagnosis or refuting the other symptoms

TABLE 1—*Results of Personal Contact and Surgical Care in Three Hundred and Twenty-Seven Cases of Appendicitis*

Acute cases			129
Adults (over 15 years)	111		
Children (under 15 years)	18		
Appendix removed at laparotomy			98
Total			227
Acute appendicitis (nonpurulent stage)			96
Subacute (operated on as acute)			11
Gangrenous			10
Ruptured			10
Abscess			8
Nondrainage	96		
Drained	32		
Appendix involved and removed at operation for other abdominal pathologic changes			93
Operations			
Salpingectomy	16	Ectopic pregnancy	1
Hysterectomy.	15	Oophorectomy	17
Gastro enterostomy	6	Cholecystectomy	8
Uterine suspension	17	Ovarian cyst	3
Hernia	3		
Nephrectomy	1	Mortality, acute	0 007
Uterine myomectomy	3	Mortality, both	0 004

The white count with the differential may give us valuable aid at times and, again, may be misleading, so that absolute reliance cannot be placed on it A white count of 8,000 has been frequently noticed in the gangrenous and perforated appendixes, while on the other hand a count of from 14,000 to 20,000 has been a not uncommon experience in acute catarrhal conditions, without suppuration. A white count should always be made, but a positive conclusion should never be withheld or made because of these findings. The differential polymorphonuclear count will be found of value in determining the patient's resistance to the infection. A white count over 20,000 or 30,000 should awaken a suspicion, and care should be taken definitely to rule out chest and kidney involvement.

With confirmatory symptoms well established, a urinalysis that reveals the presence of bile has led us to note that it frequently accompanies a marked suppurative or gangrenous infection of the appendix, and it has now become our tendency so to express ourselves when such a finding is reported by the laboratory.

Many and varied diagnostic factors may be encountered, and at times one is quite in doubt as to their portent or value; it is only by a careful review of their relationship to other prominent symptoms and the recalling of similar encounters in one's experience that proper appraisal can be evaluated. Keen alertness will obviate pitfalls and personal chagrin and will contribute to avoidances of errors. It is therefore meriting reiteration that concentrated efforts toward early and accurate diagnosis will materially reduce our mortality.

Operative Technic.—Much has been written and a large variety of recommendations have been advanced as to the site of incision. This can be determined only by the individual operator, and no one type can be advanced as being the incision *par excellence.* I do not feel that the site of the incision is of such great significance, for the important point is ample exposure so as to permit our dealing with the intra-abdominal condition as the findings indicate. I find that I am using most frequently the oblique right rectus route. The peritoneum opened, the presenting intestines are carefully and completely blocked off with moist saline packs. Invariably the appendix is removed. To do so requires only a few moments; still, one must not attempt it if conditions bring about excessive manipulations in the presence of an abscess or the breaking down of inflammatory defenses.

The treatment of the stump is a minor subject for debate or differences of opinions, as is also its phenolization. A purse string, ligation and invagination have been my plans, and I have yet to find a reason for altering them. The bringing over of the cut end of the meso-appendix prevents possible bands of adhesions, which are, as a rule, of only passing moment. Closure by étage suture with or without tension sutures proves most satisfactory.

Table 2.—*Mortality in Eleven Thousand Four Hundred Cases of Appendicitis, Reported by Thirty-Five Hospitals*

			Deaths						
Hospital	Location	Acute	Number	Per Cent	Surgeons	Chronic	Operation	Deaths	Total
Lakewood	Petoskey, Mich.	9	1	11.1	5	25	24	0	33
Presbyterian	Chicago	149	3	2.0	15	103	101	0	250
Mercy	Bay City, Mich.	210	7	3.3	8	152	152	4	362
Providence	Detroit	390	47	12.05	25	691	450	13	840
Mercy	Iowa City	635	20	3.1	10	267	250	9	885
St. Anthony	Columbus, Ohio	18	1	5.5	2	17	17	0	35
Mercy	Jackson, Mich.	96	3	3.1	24	32	31	0	127
St. Joseph	Sioux City, Iowa	488	7	1.4	6	125	111	0	599
University of Michigan	Ann Arbor, Mich.	96	1	1.04	10	241	92	1	188
Nichols	Battle Creek, Mich.	7[illegible]	3	4.1	7	52	50	2	122
Mercy	Muskegon, Mich.	1,035	..	1.6	11	345	345	?	1,380
St. Mary's	Saginaw, Mich.	65	24	34.4	10	72	72	15	137
Alleghany General	Pittsburgh	119	6	5.04	8	350	315	8	434
Ford	Detroit	72	5	6.9	..	587	389	15	461
Akron City	Akron, Ohio	107	6	5.5	21	93	85	0	192
St. Mary's	Marquette, Mich.	29	2	6.8	9	31	25	1	54
Harper	Detroit	633	..	....	..	1,516	1,516	..	2,149
St. Luke's	[illegible]	68	3	4.4	7	11	10	1	78
Jamestown General	[illegible]	81	2	2.4	20	33	33	1	114
Sparrow	[illegible]	261	11	4.2	36	185	185	4	446
Lakeside	[illegible]	74	4	5.4	21	294	282	8	356
Hurley	[illegible]	195	12	6.3	32	...	...	..	195
Butterworth	Grand Rapids, Mich.	188	5	2.6	..	171	0	0	359
St. Joseph	St. Paul	125	2	1.6	..	151	133	0	258
St. Luke's	St. Paul	81	4	4.9	30	42	42	0	123
Norton	Louisville, Ky.	70	4	5.7	12	106	101	1	171
St. Luke's	Duluth, Minn.	182	10	5.4	30	240	230	3	412
Immanuel	Mankato, Minn.	47	3	6.3	11	59	59	0	106
Bethany	Kansas City, Kan.	216	13	6.01	20	356	254	6	570
St. Mary's	Minneapolis	236	9	3.3	35	452	442	0	708
Louisville Public	Louisville, Ky.	58	3	14.3	13	44	33	3	91
St. Francis	Wichita, Kan.	132	1	0.71	9	111	110	0	243
Augustana	Chicago	86	3	1.05	11	111	105	..	191
St. Margaret's	Kansas City, Kan.	46	2	4.7	7	38	36	0	82
		6,369	243			7,225	6,180	95	

Acute cases, 6,369, less Harper Hospital, 633	5,736
Deaths	243
Chronic cases, 6,185, less Harper Hospital, 1,516	5,664
Deaths	95

Mortality (acute) in 5,736 cases	4.23%
Mortality (chronic) in 5,664 cases	1.68%
Mortality (acute and chronic) in 11,400 cases	2.9 %

In infancy and in childhood the diagnosis calls for the uttermost acumen. Exactness and alertness in differentiation should be exercised, and a careful study and analysis of the history, onset, symptoms and signs should be made. Appendicitis is often mistaken for some minor condition in a child. The disease is rare in the first two years of life, but with a mortality of 50 per cent in a series of eighty cases reported by Abt, one is forewarned to exercise painstaking diligence to arrive at the proper diagnosis and thereby conserve valuable time as well as to minimize the mortality. Especial attention must be given to eliminate the abdominal prodromes of infectious diseases and not hastily to conclude that the abdominal symptoms are merely ushering in an acute disease of infectious nature. Appendicitis in children is insidious in its onset, and the tendency is toward rapid perforation. Indications of a coexisting peritonitis can properly be assumed as originating from the appendix involvement.

It is, however, when we are confronted with the retrocecal, suppurative abscess, gangrenous and buried in adhesions type, with or without walling-off appendicitis, that the surgeon is called on to exercise his judgment and experience and to exhibit a refined effective technic. One cannot set these forth in mere words, for individual cases, conditions and complications prohibit hard and fixed rules of procedure. The generalities are mobilization, definite progressive steps, with the avoidance of undue handling or mauling of the cecum or ileum, with gentleness of touch and expeditiousness in so doing.

Drainage should be drainage and not merely the insertion of a tube, gauze or rubber strip without regard to their location. The cigaret, rubber tube or rubber dam will accomplish the desired results, provided they have been so placed as to drain the dependent sites. When drainage is indicated then one should drain, but one should not nullify it by suturing the incision so tightly as to seal the outlet. More deaths occur from faulty draining than from almost any other cause. Frequently it is quite indicated not to suture the wound at all. If it is sutured part way, then care must be taken that the suture extends only part way and does not occlude the drainage openings. It is better by far to err on the side of nonsuture than to suture tightly, for a ventral hernia is far easier to repair than to combat generalized peritonitis or give life to a deceased patient.

Postoperative Care.—In the ordinary acute case without drainage, the postoperative course should be without untoward symptoms. Ordinary postoperative care is as a rule all sufficient. The patients are permitted to have a back rest on the third day, to be out of bed on the sixth day and home at the end of a week.

It is in the cases in which drainage has been done, and those showing moderate or somewhat advanced peritonitis, that aggressive postoperative care will circumvent a fatality. Splinting the abdomen with morphine given so that the patient is quite stuporous is a very effective combating measure. The giving of plenty of fluids is most important. From 2,000 to 3,000 cc. of saline solution given subcutaneously while the patient is still on the table, and this repeated in twelve hours, together with a continuous rectal drip, is clearly indicated. One, two or even more intravenous blood transfusions are of material value in combating the infection and building up resistance. Vomiting is controlled by early and repeated gastric lavage. Drug stimulation is of little value unless digitalis is given because of myocardial symptoms. The patient's position should be changed from back to right side frequently.

The drains should not be tampered with. The outside dressings may be changed, but the drains must remain in place until convalescence is well established. They are not to be removed until they are almost ready to float out of themselves. One defeats their purpose if removal is attempted in two, three or four days, in spite of the arguments that nature has in that time walled off the rest of the abdomen. The early removal of drains is a factor that increases our mortality.

Massive Collapse of Lungs.—Probably the reason massive collapse of the lungs is so frequently overlooked is that its mere presence is at once regarded as conclusive evidence of the existence of pneumonic consolidation. Due regard to the other signs, particularly cardiac displacement, should make the diagnosis clear.—Walter Estell Lee.

END-RESULTS OF RADIUM TREATMENT OF SKIN CANCER *

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Literature on cancer contains numerous articles on the treatment of isolated cases of skin cancer with radium but few statistics on the results of large numbers of cases. In the handbook recently published by the American Society for the Control of Cancer[1] is found the statement that there are few statistics on the results of treatment of any sort.

In observing cases of skin cancer treated with radium, one notes the rapidity with which the average case responds. The impression is gained that treatment by radium is usually successful. In order to see whether or not we were justified in such impressions, it seemed wise to take account of stock by reviewing a group of cases. All patients with skin cancer entering the Huntington Hospital during the years 1917 and 1918 and treated with radium were studied for end-results. There are 265 cases in the series.

It must be appreciated that in a clinic such as the one at the Huntington Hospital one sees all types of cancer of the skin from a keratosis becoming cancerous to an extensive cancer involving the deep structures. In many of the advanced cases the lesions have been neglected by the patients themselves; others have been incompletely or incorrectly treated by the physicians whom they consulted. Still others have been correctly treated but have not responded to treatment. These cases are sent to us because of the fact that we have had greater experience with such cases.

Furthermore, it must be appreciated that the majority of these patients are old. The average age of the 265 patients in this series was 60.8 years; 144 were over 60. Many of the patients come from rural New England. For these reasons, regular trips to the hospital are a hardship. As a rule these patients come regularly until the gross lesion is destroyed, but it is more difficult to get them to come for careful watching afterward. It was intended to secure five year end-results on this series, but the number who died of intercurrent disease or who were untraced between the three and the five year period was great enough to reduce the number available for end-results nearly one half. Seventy-eight cases were followed for a full five years or more. There was one case of recurrence at the end of four and one after five years, so that it is apparent that three year statistics are as good as five year on this type of disease. Patients who were treated early and cured quickly did not consider their troubles serious enough to warrant continuing visits or answering follow-up letters for three years, and they were frequently lost. With a good follow-up system, and with the aid of the state bureau of vital statistics, it is easier to trace a dead patient than a cured one.

SEX

There was a slight preponderance of men over women, the ratio being about 6 to 4. The statement has been made frequently that from 75 to 90 per cent. of all cases are found in men. Krompecher,[2] however, found 9 in men to 8 in women, and Hazen[3] records about 5 to 4 ratio.

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* From the Collis P. Huntington Hospital.

[1] Essential Facts About Cancer, American Society for the Control of Cancer, 1924.

[2] Krompecher: Der Basalzellenkrebs, Jena, 1903, cited by Hazen (Footnote 3).

[3] Hazen, H. H.: Skin Cancer, St. Louis, C. V. Mosby Company, 1916.

OCCUPATION

Another prevalent idea which these figures seem to refute is the one that skin cancer is more likely to appear among people living outdoors and thus exposed to the elements. "Essential Facts about Cancer"[1] states that skin cancer is found "especially in those who have long followed outdoor occupations." Not one of our 111 women had engaged in outdoor occupations and scarcely more than half of the men. Of the entire series only 29 per cent. worked outdoors. The Huntington Clinic draws many of its patients from the country about Boston, so that this series does not contain too great a proportion of indoor workers. Therefore, we must conclude that occupations, indoor or outdoor, have little to do with the prevalence of skin cancer.

Table 1.—*Age Range in Two Hundred and Sixty-Four Patients**

Age in Years	Number of Cases
19	1
20 to 29	0
30 to 39	10
40 to 49	36
50 to 59	73
60 to 69	70
70 to 79	60
80 to 89	14

* Average age, 60.8 years.

PREVIOUS TREATMENT

It is futile to catalogue the kinds of treatment to which these patients had been subjected before coming to the hospital. The statement of a patient that a lesion has been cauterized means nothing unless one knows whether this was done with an actual cautery to the lesion and surrounding tissues, or whether the surface was touched up with a caustic pencil. Every type of treatment known to man had been given: among them, excision, incision and drainage (through incorrect diagnosis), radium, roentgen ray, "electricity," ointments, washes, nitric acid, caustics, cancer pastes, carbon dioxid snow, phenol (carbolic acid), ozone, iodin and violet ray. Other patients, not seeking professional advice, had applied such home remedies as sulphur, pork fat, fullers' earth, hydrogen peroxid, sulphonaphthol, petrolatum, powder and herb teas.

DURATION

Statements made by patients as to the duration of a lesion are inaccurate. Bloodgood[4] has stated that he believes that every one of these skin cancers has an antecedent benign lesion. The average patient recalls having some minor defect in the skin for many years, and he is not conscious when it began to change its character. These precancerous lesions may have been seborrheic warts, moles, papillomas or keratoses and may have existed for years. Some of our patients had been under treatment in other clinics for a recognized skin cancer for periods long enough to justify our belief that many of these lesions had been malignant for three or five years before we saw them.

PATHOLOGIC EXAMINATION

Except when there is reasonable doubt as to the diagnosis, we do not consider it good therapy to remove specimens for diagnosis. Because of the danger of metastasis, we never curet these lesions. Wassermann tests are made only in the doubtful cases. Clinical examination of the average skin cancer by a physician seeing many of them, checked up by microscopic examination of those removed surgically, is believed to be accurate enough to forego removal of a specimen. The presence of induration about the periphery of a pearly edged, ulcerated or scabbed skin lesion makes the diagnosis practically certain. In borderline cases, the presence of true induration is the deciding factor.

We have fund it difficult to differentiate clinically between basal cell cancer and squamous cell cancer. During the same two year period, twelve skin cancers were removed surgically and examined by the pathologist. Frequently the pathologic examination did not coincide with the diagnosis made clinically as to type. However, the methods of treatment are the same whatever the type.

Specimens were removed from twenty-four of the patients in this series—patients who were not responding well to irradiation, or those who had been suffering from the disease for many years. In seven the specimen showed squamous cell or epidermoid carcinoma, and in seventeen, basal cell carcinoma.

Basal cell carcinoma does not metastasize. It is a low grade, slow growing type. These seventeen patients had had the disease over seven years, on the average, before coming to us. In our clinic they averaged four and a half years under treatment. Several are alive with the disease. There was but one cure, and that was an operative cure after radium had failed. It is interesting to note that all but one of these seventeen patients had undergone at least one operation, and but one was cured. Some of the operations preceded irradiation, others followed it, while still others were done with immediate radium treatment.

The seven patients with proved squamous cell carcinoma belong in a different class. Their average duration of illness was only three years before treatment. They averaged one year under treatment, with one cure by operation. One other operation was done.

An attempt was made to classify these squamous cell specimens according to the amount of differentiation of the growths, as described by McCarthy and Broders[5] of the Mayo Clinic. There were too few cases to give any satisfactory results in determining the malignancy of these growths in this way, but the results were interesting in three or four cases. In these there was practically no differentiation of the cells; the disease spread rapidly and was not influenced by treatment. Those showing considerable differentiation grew less rapidly.

Table 2.—*Sex and Occupation*

Sex	Occupation Outdoor	 Indoor	 Unknown	Total
Male	75	67	7	149
Female	0	111	5	116
Total	75	178	12	265

There were two proved cases of glandular metastases, both of the squamous cell type. There were four other patients dying of glandular involvement, from whom no specimens were obtained.

TECHNIC OF RADIUM TREATMENT

Previous to the year 1917, radium treatment of skin cancer at the Huntington Hospital was in an experimental stage. Various types of filters, various dosages, and several different intervals between treatments were tried. At first, patients were seen and frequently treated every week, but later the time interval was changed to two weeks. Finally, it was found best to give a maximum dose at one sitting, and the patient was asked to return in three weeks. By this time they had received the maximum benefit from the treatment and repair had set in. If there was still reaction from the first application, treatment was postponed for another two or three weeks. Certain modifications have been made in the technic since 1917, but in general the methods in use now are the same.

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[4] Bloodgood: Progressive Medicine, December, 1912, cited by Hazen (Footnote 3).

[5] McCarthy and Broders: Ann. Surg. **76**: 9 (July) 1922; abstr., J. A. M. A. **79**: 850 (Sept. 2) 1922.

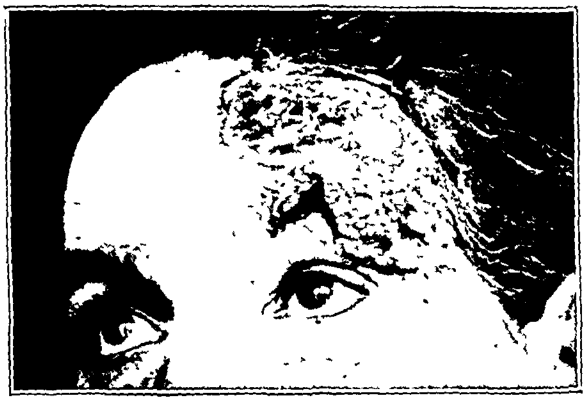

Fig. 1.—Carcinoma of the forehead of six years' duration, 8 by 5 cm.

Radium emanation has been used exclusively. The emanation is pumped into capillary glass tubes, which are sealed off, about 1 cm. in length. These tubes are then placed in jackets of steel about 0.25 mm. thick Into one end of the jacket is screwed a small point and into the other a head which bears a letter identifying the tube. This makes a needle about 2.8 cm. in length.

The type of treatment given varies with the size and location of the lesion. For a round lesion it is best to use an applicator that will keep the radiation within a circular area. Bovie and Daland [6] showed that a brass cone, 1 cm. high, on which a tube of emanation was laid, gave not an oval reaction but a round one. These experiments were carried out by irradiating known thicknesses of photographic paper, developing them and making models of the irradiated portions of the paper. The smaller the aperture in the cone next to the skin, the more intense the irradiation, a fact that must be borne in mind. The objection to this method is that, if ulceration of the lesion or the skin around it occurs, the final result shows a definite line between the irradiated and the nonirradiated tissues. If no ulceration occurs, it is a satisfactory method. For lesions that are not circular, an oval reaction is desired. To obtain this, a centimeter of gauze or wood may be used as a filter. This allows the radiation to spread out around the periphery, and does not give a definite line of demarcation. However, because the radiation does spread out, a heavier treatment must be given. Because of the law of inverse squares, the dosage required when a centimeter of gauze, wood or air (cone) is used for a filter is about four times that required when the tube is placed directly on the lesion. The amount of tissue effectively irradiated by such an application is about 4 sq. cm. There are fewer peripheral recurrences when this type of treatment is given.

When a direct application of the tube to the tissue is made, more beta radiation is secured. We believe that this is to be desired. Our tendency has been more and more to use this method in preference to the brass cone or wood filter. When an effective dosage is given, there will be necrosis of the tissue beneath the tube for a distance of 0.5 cm. in each direction. The gamma radiation will probably extend twice as far and will cause some damage to tissue, but not necrosis. If the lesion to be treated is superficial, such an application would leave a depressed linear scar and should not be used. In such a case the tube may be laid on a few millimeters of gauze or on a thickness of a throat stick. This allows the maximum point of treatment to come within the lesion and not in the healthy underlying tissue.

Whenever the tube as applied to a lesion comes within 1 cm. of normal tissue, the latter must be protected by 2 mm. of lead. This may be done by laying a curved piece of lead over the tube or by laying the lead over the part to be protected. The lead should be covered with rubber or adhesive plaster to prevent secondary radiation. Such protection is necessary for treatment around the eye, on the side of the nose or on the ear.

DOSAGE

It has been found that, when a steel jacketed emanation tube (0.25 mm. steel) is used for a surface application, a dosage of 12.5 millicurie hours is sufficient to give an erythema and produce slow disappearance of a skin cancer. Fifteen millicurie hours produces a definite destruction and is generally used at the first treatment.

The *easiest* way to apply tubes to a lesion is by fastening them with a narrow strip of adhesive plaster. This requires too close contact of the fingers to the radium. A *better* method is to apply a little firm white petrolatum from a tube directly to the lesion. With long forceps the radium may then be applied where desired. A little absorbent cotton can be similarly applied over the tube and stuck to the petrolatum. Usually this is sufficient to hold the tube in place. If desired, adhesive plaster may be applied over all with an instrument. Dental wax moulds for placing and holding the tubes have been tried, but they were not as satisfactory as the foregoing method.

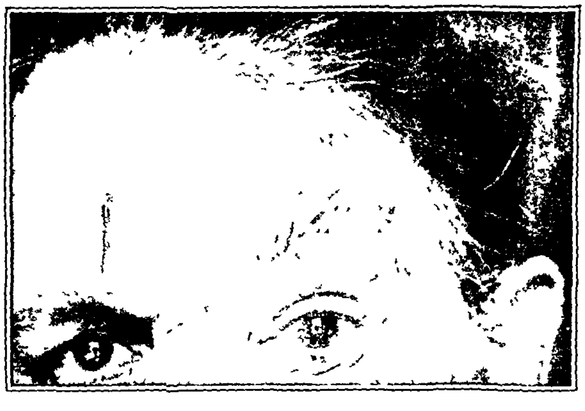

Fig 2 —Patient in Figure 1 after twelve radium treatments with bare steel tubes Two small recurrences developed but were destroyed by radium Well two years after treatment of recurrences

The reaction from such a treatment begins in about five days as an itching sensation. This is followed immediately by an erythema and finally, at the end of ten days, by an ulceration. At the end of two weeks repair sets in, the symptoms disappear, the lesion disappears and healing begins. At the end of three weeks, rarely as long as four or five, the reaction entirely ceases.

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[6] Bovie, W T, and Daland, G A, unpublished experiments

Table 3.—*Results by Classes*

	Class A	Class B	Class C	Total
Total number of cases (two years)	183	53	29	265
Inconclusive cases	2	3	1	6
Untraced for full three years.	21	7	0	28
Died of intercurrent disease within three years	22	6	0	28
Cases available for end-result data	138	39	28	203
Radium cases (well three years)	112 (81%)	15 (38.4%)	0 (0%)	127 (62.5%)
Radium and operation (well three years)	4 (3%)	4 (10%)	1 (3%)	9 (4.4%)
Total (well three years).	116 (84%)	19 (48.4%)	1 (3%)	136 (66.9%)
Died of cancer	9	17	24	50 (24.6%)

In times past we have treated some of the nonulcerated lesions or portions of lesions with 1 mm. or 0.5 mm. silver filtered applicators which screen all but the gamma radiation, and with a larger amount of radium. We are firmly convinced that this is temporizing, for in order to destroy cancer beta radiation is required. Gamma radiation causes a fibrosis and checks the growth but does not destroy it.

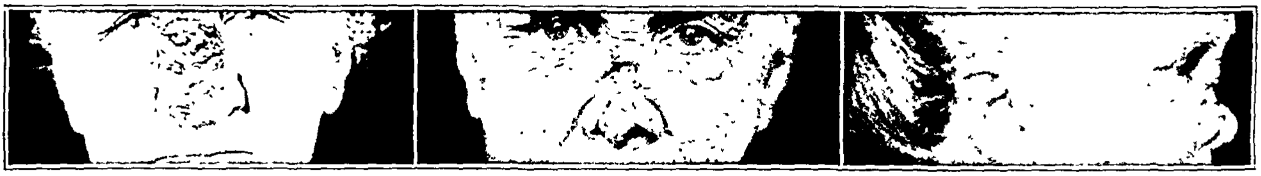

Fig. 3.—Carcinoma of the nose of six years' duration. Sixteen surface radium treatments were given in small amounts at weekly intervals; lesion was destroyed but bad defect left in nose. Patient did not wish plastic operation Well four years later.

One of the biggest advances in the treatment of large lesions has been in the use of emanation in the form of tiny pinhead capsules or "seeds." These were first used at the Huntington Hospital in 1915, but they are more in use today than during the period of this report. One millicurie in a seed destroys about 1 c.c. of tissue. Seeds are therefore inserted in lesions having such a volume, or into larger lesions in such a way that there is 1 cm. between them. Each seed will give 132 millicurie hours' irradiation before its value is used up. Care must be taken in placing them, for if they are not properly placed, or if they move along fascia planes, they may damage vital structures. Probably the best method is to use these for the first treatment to slough off the surface of the lesion, and then to depend on surface applications to finish the destruction. The discrepancy between the dosage of 15 millicurie hours mentioned for surface dosage and that of 132 millicurie hours from a "seed" is to be noted. It is a well known fact that large amounts of radium over a short period of time are more effective than small amounts for longer periods. The "seed," if not displaced or lost out in the sloughing area, ceases to be effective in two weeks, but, as it loses one sixth of its value each day, it is practically ineffective after one week.

From irradiation of the heaped up skin cancer there is practically no scar. If there has been loss of tissue by the ulcerating new growth or if the radium has been applied too near normal tissue, there will be either a depressed scar or a smooth surface made up mostly of scar tissue.

We realize that the use of ointments, such as petrolatum or boric acid ointment, is thought to increase the effect of the irradiation. Nevertheless, the dressing that we advise patients to use is a small piece of linen to the under side of which an ointment has been applied. No adhesive plaster is required, and it is an easy dressing for the patient to use. We have used this type of dressing so constantly that our dosage has been determined with the expectation that ointment would be used.

CONTRAINDICATIONS

We have found that wherever there is a possibility of necrosis of cartilage from irradiation, excision should be done. This applies chiefly to the ears, although to a lesser extent to the upper lids and nose. Necrotic cartilage is exceedingly troublesome and may cause pain for several months. Cancers on the dorsum of the hand should be excised, as heavy irradiation near synovial membranes gives a complete disability of the hand for several weeks. Cancer of the scalp should be excised, if possible, for there is danger of causing necrosis of the skull.

RECURRENCES

Many of the old patients show numerous degenerative areas in their skin, and they are very apt to develop numerous cancers. Some are in the form of keratoses when the patients first come to the clinic, and they respond readily to light amounts of radium.

RESULTS

A rough classification of these cases has been made from the description in the record, without knowing the end-results. Patients who had lesions limited to one definite area of the skin, without encroachment on neighboring parts, without fixation and without bone or gland involvement were placed in Class A. These cases, embracing 69 per cent. of the total, were cases that unquestionably should have been cured by either radium or excision. Radium was to be preferred in many because of the location and the danger of deformity from excision. Of 138 cases traced radium cured 112, while four more were cured by excision after irradiation. This gives a total of 116, or 84 per cent.

Class B, including 20 per cent. of the total, comprised those cases in which there was a slight degree of fixation or in which the lesions extended to a second structure, as cancer of the nose extending on the face or eyelid. There was some doubt as to the possibility of cure in these cases, but radium was considered to offer more chance than excision. Of thirty-nine patients, fifteen were cured by radium and four others by operation after radium, giving a total of nineteen, or 48.4 per cent.

In Class C were placed 11 per cent., cases in which the possibility of cure was considered remote. There was extension to fascia, cartilage, bone or glands. Radium alone did not cure any of these twenty-eight cases, but surgical removal following irradiation cured one, or 3 per cent.

The three year period of cure dates from the last radium treatment. The majority of patients were examined in the clinic at the end of this time. However, the personal statement of the patient was accepted in a few cases, provided he was free from disease at the time of his last visit. Patients who died with cancer still present are recorded as "died of cancer" whether or not there was another cause. This makes the results seem poorer than they really are. There were a few cases which were thrown out as inconclusive. Some of these patients had had other treatment during the same three year period. Two were mildly insane patients and were treated for only a short time. Others were aged persons who came for one treatment only—not enough to cure them.

The average number of radium treatments given the cured patients was three.

There are seventeen of this group who are still alive with the disease. About one half are still under treatment. The others are too old, or their disease is too extensive to permit them to attend the clinic.

Several patients had small recurrences which were treated. Those who have been well three years since the last treatment are included as cures. Several others are excluded as inconclusive because the time interval is less.

The final results give 62.5 per cent. cured by radium alone, and 4.4 per cent. by radium followed later by operation; 24.6 per cent. died with cancer still present.

Table 4.—*Results by Regions*

Location	Total	Untraced Three Years	Died of Intercurrent Disease	Inconclusive	Patients Available for End-Results	Well Three Years	Well Three Years, Radium and Operation	Died of Cancer	Alive with Cancer
Nose	72	8	4	3	57	44	0	8	5
Nose and adnexa	20	1	2	0	17	7	3	5	2
Ear	18	2	3	1	12	7	2	3	0
Ear and adnexa	4	0	0	0	4	0	0	4	0
Lower lid	19	3	2	0	14	13	1	0	0
Lower lid and adnexa	3	1	1	0	1	1	0	0	0
Upper lid	5	0	1	1	3	3	0	0	0
Both lids and adnexa	6	1	0	0	5	1	1	1	2
Inner canthus	13	3	3	0	7	5	0	0	2
Outer canthus	2	2	0	0	0	0	0	0	0
Cheek	53	3	8	1	41	26	1	13	1
Temple	10	0	0	0	10	8	0	2	0
Forehead	8	1	0	0	7	2	1	2	2
Chin	2	0	0	0	2	2	0	0	0
Scalp and mastoid	10	0	1	0	9	1	0	7	1
Neck	5	0	1	0	4	3	0	1	0
Hand	3	1	0	0	2	2	0	0	0
Leg	3	1	0	0	2	1	0	1	0
Upper lip	5	1	2	0	2	1	0	1	0
Abdominal wall	1	0	0	0	1	0	0	0	1
Multiple	3	0	0	0	3	0	0	2	1
Total	265	28	28	6	203	127	9	50	17

Finally, the length of life has been increased in many patients who later died of cancer. In numerous cases, suffering has been alleviated or prevented.

SUMMARY

1. Skin cancer was treated by radium in 265 cases, and the end-results were ascertained in 203 cases.

2. The results of treatment of the early cases show 81 per cent. of cures by radium, and 3 per cent. by operation following radium. The moderately advanced cases show 38.4 per cent. of cures by radium, and 10 per cent. by radium and operation. None of the advanced cases were cured by radium and only 3 per cent. by the combined treatment.

3. The results of all cases give 62.5 per cent. of three year cures by radium alone and 4.4 per cent. more by operation following radium.

4. In cancer of the nose alone, there were forty-four cures in fifty-seven patients. When it involved the adjacent structures, there were ten cures out of seventeen cases. The ear cases showed nine well of twelve treated, but when the disease spread from the ear to surrounding tissues the patients all died. The eye cases were the most satisfactory of all, there being twenty-five cures out of thirty cases. There was but one death, the other patients being alive with the disease. The other large group of patients, those in whom the cheek was involved, gave twenty-six cures out of forty-one possibilities.

Table 5.—*Patients Alive Three Years*

	A	B	C	Total
Alive and well three years	116	19	1	136
Alive and under treatment for original lesion	3	0	2	5
Alive but not under treatment	4	3	0	7
Recurrent and under treatment	4	0	1	5
Total number alive three years	127	22	4	153
Pecentage				75.4

5. The results given are of two year cases and include all cases treated by radium, early and advanced. Patients dying with cancer still present are recorded as dying of cancer.

6. It seems fair to conclude that radium is the treatment of choice in cases of cancer of the nose and the eyelids, when operation would cause severe deformity. It is a perfectly satisfactory method of treating skin cancer in any location, although excision is satisfactory when the lesion lies in an area in which no deformity would result. Anything but the most superficial lesions on the ear or dorsum of the hand should be excised.

7. The best method of treatment is to destroy the gross lesion by the insertion of 1 millicurie radium emanation seeds, one to each cubic centimeter of tissue. Emanation tubes in steel jackets should then be used to destroy any remaining growth, from 12.5 to 15 millicurie hours to an area, the tubes not nearer to each other than 1 cm. An alternate method is to place such a tube on 1 cm. of gauze or wood or on a hollow brass cone. In this case the dose should be quadrupled.

8. Palliation and relief from pain may be given in some cases in which cure is out of the question.

483 Beacon Street.

Chinese Medical Sayings and Proverbs.—1. The doctor has the heart of parents. 2. A doctor has the heart to cut flesh off the thigh, but never the mind to deceive a patient. 3. When you are poor there is no clever man who will present you with money, but a doctor will give you a prescription if you are ill. 4. Men worry over the great number of diseases; doctors worry over the small number of remedies. 5. A teacher will not speak against a teacher nor a doctor against a doctor. 6. The sorcerer recites and chants for people and is benefited by their death; a doctor treats the people's sickness and is benefited by their living. 7. A doctor's character should be square, his knowledge round, his gallbladder large and his heart small (a large gallbladder signifies bravery, a small heart means carefulness). 8. The good doctor first treats the disease of the nation, then human ailments. 9. The high grade doctor serves the nation; the middle grade doctor, the individual; and the low grade doctor treats physical ailments.—*China M. J.* **39**:1100 (Dec.) 1925.

UNUSUAL BILE DUCT VISUALIZATION BY ROENTGENOGRAMS OF BARIUM MEAL *

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AND
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The case we are reporting presents certain features which we have been unable to find reported in the literature.

REPORT OF CASE

W. H., a man, aged 70, was admitted, April 12, 1924, to the R. W. Long Hospital, with the complaint of pain and cramping in the right upper quadrant of the abdomen. His health previously had been essentially good except for repeated attacks of "stomach trouble" during a rather indefinite period of from twenty to twenty-five years. Five years before his admission to the hospital there was an unusually severe attack, accompanied by considerable prostration and requiring bed rest for some days. This was the only attack in which the patient was markedly jaundiced. Milder attacks of pain and cramping in the right upper quadrant of the abdomen persisted up to the time of admission to the hospital. After his admission there was one very mild attack, which followed ingestion of the morning meal, but was not accompanied by nausea, vomiting, jaundice or changes in defecation.

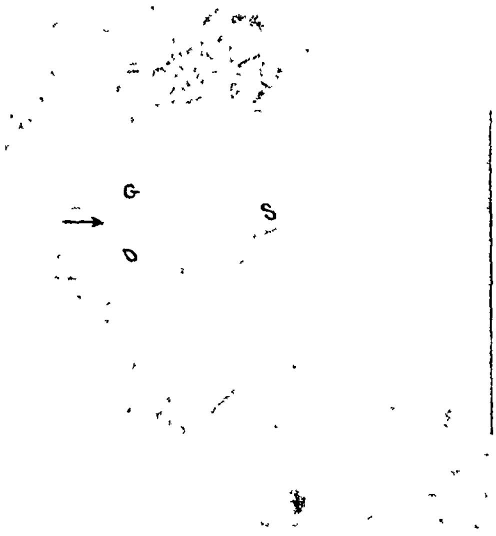

Fig. 1.—Fifteen minutes after ingestion of barium meal, patient in prone position: *S*, stomach flattened by pressure on Potter-Bucky diaphragm; *D*, duodenal bulb; *G*, gallbladder; arrow marks site of fistula.

The patient was of average height, weighed about 180 pounds (82 kg.) and was fairly well preserved. The abdomen was full and rounded. Deep palpation over the gallbladder and posteriorly along the costal border revealed considerable tenderness. The liver was palpable two finger breadths below the costal margin in the right midmammary line. There was no demonstrable ascites. The spleen was not palpable. A tentative diagnosis of cholecystitis with probable cholelithiasis was made.

Routine laboratory examinations showed a normal blood picture and a negative Wassermann reaction. Urinalysis suggested a chronic nephritis with somewhat high specific gravity; albumin present, from a trace to two plus; and occasional casts. The phenolsulphonephthalein function test revealed 35 per cent. eliminated in two hours.

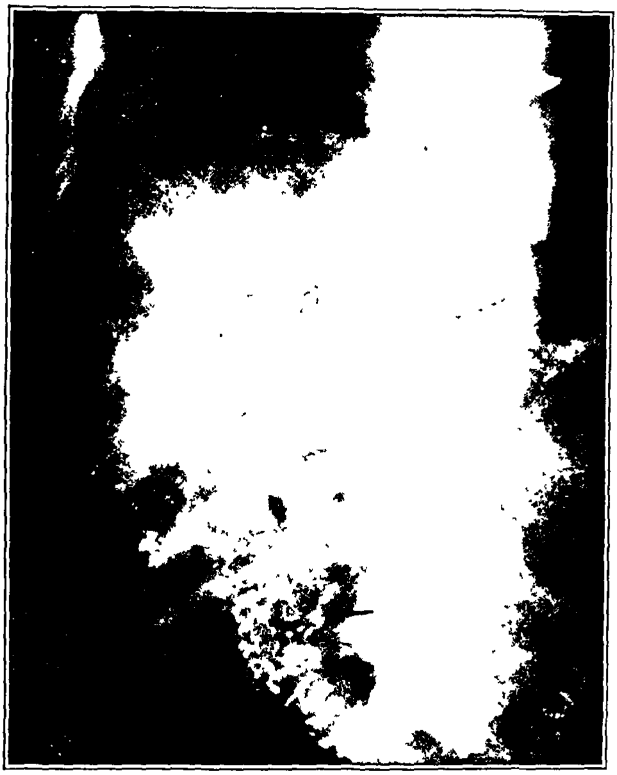

Fig. 2.—Barium in bile ducts two hours after meal.

Roentgen-ray studies were made, April 13 and 14, and were corroborated, May 5 and 6. Films of the gallbladder, taken directly, were negative. After a barium meal, slight prepyloric roughening could be seen with inconstant visualization of the ampulla of Vater with the patient in the erect position. In the prone position, an unusual condition was found: The barium was seen to have left the duodenum and to extend upward to form an irregularly rounded shadow in close proximity to the duodenal bulb in the usual position of the gallbladder, but smaller than the gallbladder. As the gallbladder filled with the intermittent filling and emptying of the duodenum, the cystic and then the right and left hepatic ducts became visible. The common duct was then gradually visualized down to the ampulla, and, as the barium passed like a flow of bile down to the ampulla, there was also a back flow into the smaller hepatic ducts. The evidence, as found on the screen and in stereoscopic films, indicated that the biliary tract had filled through a fistula between the duodenum and gallbladder. Films two and four hours later showed considerable barium remaining in the minor hepatic ducts and a moderate amount in the common duct. After twenty-four and forty-eight hours, traces of barium were still visible in the small ducts. The conclusion from the roentgen-ray findings was that gallbladder disease had been followed by spontaneous cholecystoduodenostomy.

The Rosenthal phenoltetrachlorphthalein liver function test showed only 4 per cent. retention of the dye at the end of fifteen minutes, with none retained at the end of one hour. A pancreatic function test by the diastase method of Brown gave a high normal value of more than 240,000 units.

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* From the medical and roentgen-ray services of the Robert W. Long Hospital, Indiana University School of Medicine.

Repeated attempts at gallbladder drainage by the Meltzer-Lyon method yielded only a continuous flow of "A" bile, or of "A" bile followed immediately by "C" bile. From the last bile obtainable, *B. coli-communis* could be demonstrated in a direct smear of a centrifugalized specimen, and cultivated in numbers showing the bacterial content to be approximately 360,000 per cubic centimeter of bile.

Operative procedures were deemed inadvisable, by Dr. C. P. Emerson, on account of the age and general condition of the patient, and the absence of assurance that the common duct was open. It is known that a surgical anastomosis between these structures usually closes if the cystic and common ducts are patent. In this instance a simple diet and a regular mode of living, as followed at the hospital, gave almost complete symptomatic relief. This patient was later shown by Dr. Emerson at the 1924 session of the American Medical Association in Chicago.

CASES PREVIOUSLY REPORTED

There have been only a few cases reported in which the bile ducts have been visualized. Stephenson,[1] in 1921, reported the case of a man, aged 56, whose gallbladder had been removed in 1916 without the finding of stones, and who submitted to further examination in 1921 for recurrence of trouble suggestive of ulcer. At this time barium was found in some of the larger bile ducts, which became filled through the common duct. He was able to show by a roentgen-ray examination, a year later, that the condition persisted, yet there was no clinical evidence of hepatitis or choledochitis. No liver function tests were reported.

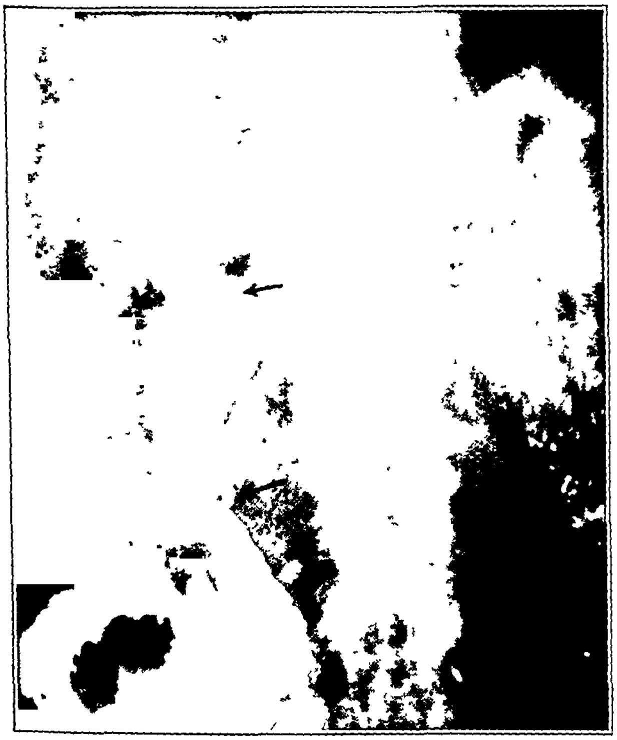

Fig 3.—Four hours after meal, arrows indicate barium remaining in common duct

Carman[2] reports a case of cancer of the pylorus in which perforation into the gallbladder was observed. The communication was shown by the barium meal, and some of the hepatic ducts were also visualized.

Beall and Jagoda[3] described the case of a woman with acute gastro-intestinal colic in whom roentgenologic study during the attack showed the barium contained in the common and hepatic ducts, but without gallbladder visualization. At operation a normal gallbladder was found with the pancreas enlarged and hardened and an abscess in the upper left portion of the lesser peritoneal cavity, bounded by a mass of adhesions. The conclusion in this case was that barium would probably be seen more often in the bile ducts in cases of increased intravisceral pressure if roentgen-ray studies were made during such attacks. In support of this opinion a roentgen-ray film was presented. At necropsy on a person dying from an extra-abdominal condition, bile was found in the common duct. Barium was forced, under high pressure, from the duodenum into the bile ducts, as demonstrated by this film.

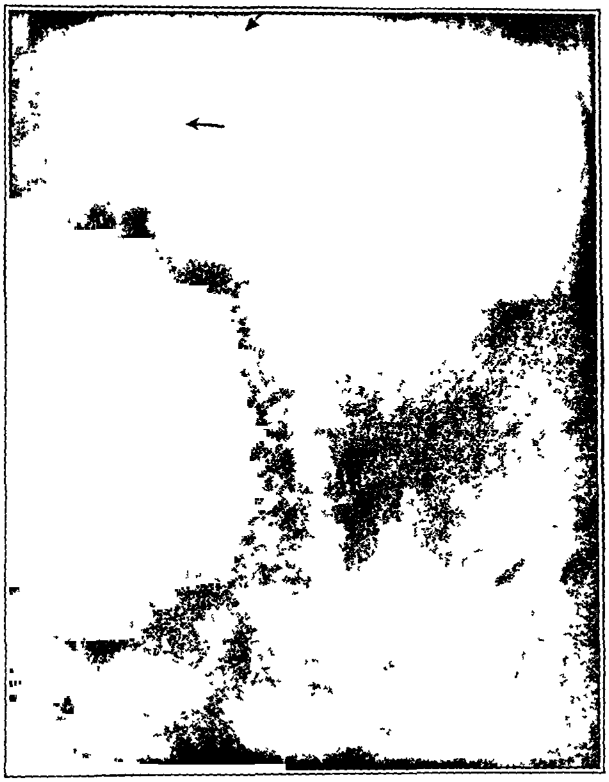

Fig 4.—Twenty four hours after meal, traces of barium remain in smaller ducts.

However, since the pressure required was sufficient to rupture the gallbladder that was presumed to be normal, these conclusions do not seem to us to be well founded.

Case[4] discussed the roentgen-ray findings after surgical cholecystenterostomy, but reported no instance of visualization of the bile ducts.

Judd and Burden[5] discuss in detail the subject of internal biliary fistula, reviewing the 153 cases seen at the Mayo Clinic. The great majority of these were between the fundus of the gallbladder and the duodenum. In fifty-five of these cases there were stones in the common duct. The clinical diagnosis of fistula between the gallbladder and the intestinal tract was made in only two cases; one was the case reported by Carman;[2] the other, a case of fistula between the gallbladder and the colon, was demonstrated by the roentgen ray after a barium enema.

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[1] Stephenson, F. B.: Opaque Meal in the Liver Ducts, J. Radiol. **2:** 35 (April) 1921.

[2] Carman, Russell: Roentgen Diagnosis of Diseases of the Alimentary Canal, Philadelphia, W. B Saunders Company, 1920, p 434

[3] Beall, F. C, and Jagoda, Samuel: Injection of Bile Ducts with Barium, J A. M. A. **76:** 1483 1484 (May 28) 1921.

[4] Case, J T: Roentgen Observations on the Duodenum, Am. J. Roentgenol. **3:** 314-326 (June) 1916

[5] Judd, E S, and Burden, V G: Internal Biliary Fistula, Ann. Surg **81:** 305-312 (Jan) 1925.

The various authors agree that such a fistula rarely occurs in the absence of calculi. In this case, ulceration and rupture probably occurred in 1919. As the ducts must fill each time the patient ingests food, the backing up of the duodenal contents thrice daily, with the infection and overdistention of the ducts, may, very probably, be giving rise to biliary cirrhosis. Clinical and laboratory evidence, however, justify the conclusion that, at least up to the present time, there has been no serious disturbance of the liver cells. This patient is to return at a later date for further observation and consideration as to treatment.

CONCLUSIONS

1. *The intrahepatic bile ducts of this patient were* filled by the barium meal, evidently through a spontaneous cholecystoduodenostomy, and were clearly visualized.
2. The bile ducts are probably filled in a similar manner by duodenal contents, after meals, particularly when the patient lies down after eating. The retention of the barium in the ducts indicates that food material, with its accompanying bacterial content, must be present in the bile ducts at all times.
3. Although this marked abnormality has been present probably for five years, it has caused no functional change, so far as can be determined by the usual liver function tests.

RECURRENT DŬMB-BELL STONE IN VESICAL BLADDER AND DIVERTICULUM

REPORT OF CASE

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The more universal application of combined cystoscopic and roentgenoscopic study of the urinary tract has shown the incidence of vesical diverticulum and calculus to be much higher than was formerly thought to be the case. The functional end-results from operations on the urinary tract are largely governed by the preoperative diagnosis and treatment. This is especially true in the case of bladder stones and diverticula, which occur with such frequency that their presence must always be considered in any operative procedure on the bladder and its contents. Diverticulum of the urinary bladder occurs in approximately 5 per cent. of those persons reaching the prostatic age. Hunt[1] reports 1,360 cases of adenoma of the prostate; he found calculi present in 15 per cent., while diverticula were present in 5 per cent. Judd in a series of 133 cases of diverticula of the urinary bladder found stone present in twenty cases. In nine, the stone was situated in a diverticulum, and in three cases a dumb-bell stone was found in both the bladder and the diverticulum. This type of stone formation is very rare, as only eight cases have been reported in the literature. Three cases were reported by Judd and Scholl[2] from the Mayo Clinic, and one each by S. P. Martin,[3] E. G. Davis,[4] E. Beer,[5] H. H. Young,[6] and H. W. E. Walther.[7] This condition is considered of sufficient rarity to warrant reporting a ninth case of recurrent dumb-bell stone in vesical blader and diverticulum.

REPORT OF CASE

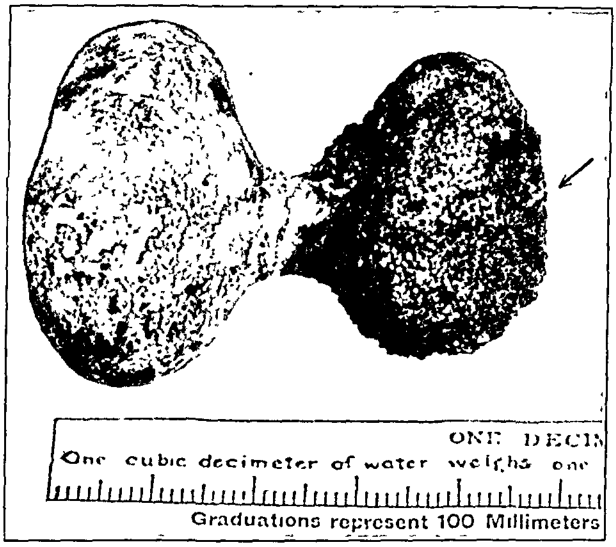
ONE DECIN
One cubic decimeter of water weighs one
Graduations represent 100 Millimeters

Fig. 1.—Dumb-bell shaped stone, after removal from bladder and diverticulum. The arrow points to the bladder stone.

C. L. N., a white man, aged 65, referred by Dr. H. F. Davies of Washington, D. C., entered the hospital, June 26, 1925, complaining of intense tenesmus and frequency of urination, with hematuria. He had measles, pertussis and parotitis when a child, but no other serious illness until 1915, when he began to have frequency of urination and hematuria. The urinary symptoms gradually became worse, especially when the patient was on his feet. Considerable difficulty was experienced in completely emptying the bladder. The pain, dysuria and presence of blood in the urine caused him to seek medical attention. May 20, 1918, a cystoscopy was done, and a large stone was found in the bladder. A suprapubic cystostomy was done at this time and the stone removed. The patient was unable to void following the operation and required continuous catheterization since the operation. Three years before I saw him, the pain again increased in severity and there was passage of some blood in the urine. A second cystoscopy was done in 1920 and an operation advised. This was refused, as the patient was not informed as to the cystoscopic findings. I saw the patient, May 2, 1925, for the first time. The physical findings at this time showed a well developed adult, suffering intense pain in the region of the bladder. The head, including the chest, was normal. The heart sounds were very faint, but no valvular changes were detected. The pulse was soft and regular and the arteries were soft. The abdomen was slightly distended, with a scar in the suprapubic region of the former operation. The temperature, pulse and respiration were 100, 90 and 20, respectively. The systolic blood pressure was 110, the diastolic, 70; the circulatory index, 57 per cent. Rectal examination revealed slight enlargement of the prostate. A twenty-four hour specimen of urine showed a specific gravity of 1.016; it was alkaline in reaction, and there was no sugar. Albumin was 2; pus, 4 on a scale of 4. No casts were seen. The hemoglobin was 80 per cent, with 4,500,000 red blood cells. The blood urea was 30 mg. per hundred cubic centimeters of blood. An intramuscular phenolsulphonephthalein test showed 35 per cent the first hour and 18 per cent the second hour. A cystoscopy was advised, but the patient refused to have it done; he agreed to a roentgenogram of the urinary tract. The upper tract was normal. In the bladder region, a dumb-bell shaped shadow was seen, slightly lateral to the normal bladder outline. The lateral shadow was more opaque to the roentgen ray and measured 5 by 6 cm. The caudad shadow was very light in comparison, quite irregular at the mesial border and measured 6 by 7 cm. The patient refused to have the bladder filled with sodium mercuric iodid solution, in order that a cystogram might be made. The preoperative diagnosis was an hour glass shaped stone in the bladder and diverticulum. A suprapubic cystostomy was done and the bladder stone located. Owing to the narrow neck of the diverticulum, the diverticular stone could not be delivered into the bladder. The sac containing the stone was resected extravesically and both sections of the stones were removed. There was a small median lobe enlargement of the prostate, which was not removed at this time. The bladder was closed in the usual manner, with a cigaret drain to the site of the diverticulum. The part of the stone confined to the bladder was dark red and was composed of uric acid. The diverticular part of the stone was very hard, white and contained phosphatic deposits principally. The pedicle measured 1 by 1 cm. and was firmly attached to both parts of the stone.

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[1] Hunt, V. C.: Surgery of the Prostate, Mayo Clinic Papers, Philadelphia, W. B. Saunders Company **15**: 505-511, 1923

[2] Judd, E. S., and Scholl, A. J.: Diverticulum of the Urinary Bladder, Surg., Gynec. & Obst. **38**: 14-26 (Jan.) 1924.

[3] Martin, S. P.: Dumb-Bell Stone in Diverticulum of Urinary Bladder, Ann. Surg. **67**: 94-95 (Jan.) 1918.

[4] Davis, E. G.: Recurrent Vesical Calculi Associated with Calculus in Diverticulum and Contracture of Vesical Orifice, Surg., Gynec. & Obst. **30**: 503-505 (May) 1920

[5] Beer, E: Dumb-Bell Stone in Bladder and Diverticula, Philadelphia, W. B. Saunders Company, S. Clin. N. Am. **5**: 102 (Feb.) 1925.

[6] Young, H. H.: Treatment of Vesicular and Diverticular Calculi, Tr. South Surg. & Gynec A. **24**: 382-408, 1911.

[7] Walther, H. W. E: Fulguration of Diverticular and Bladder Stone J. Urol. **2**: 253 (June) 1918.

COMMENT

The source of the majority of urinary calculi is the kidney, but the absence of any renal symptoms, together with the history of recurrence, is presumptive evidence of the diverticulum as the source of this stone. Two hypotheses concerning stone formation in the urinary tract are fulfilled in this case; viz., obstruction to the outflow of urine and residual urine. That a third factor plays an important part in the development of calculi is shown by the fact that in 123 cases of diverticulum of the bladder reported by Judd, only twenty contained stones. This factor is infection, as has been demonstrated by Rosenow, Meisser and others. In my report of bilateral nephrolithiasis with calcification of the renal vein,[8] it was brought out that the patient had a chronic infection of the teeth, extending over a long period of time. This finding supports the theory that certain strains of bacteria are capable under favorable surroundings of producing lithiasis, if extended over a sufficient period of time. Keyser has produced deposits of urinary salts experimentally by administering an ester of oxalic acid to rabbits, which results in overwhelming the protective colloids of the urine, with a precipitation of oxalic acid crystals. In this case report, the recurrent bladder calculus was doubtless due to the extension of the diverticular stone into the bladder, thus serving as a nidus for the bladder stone. This would have been an excellent case for lithotrity, had the diverticulum not been present, for the bladder stone was soft and crumbled easily.

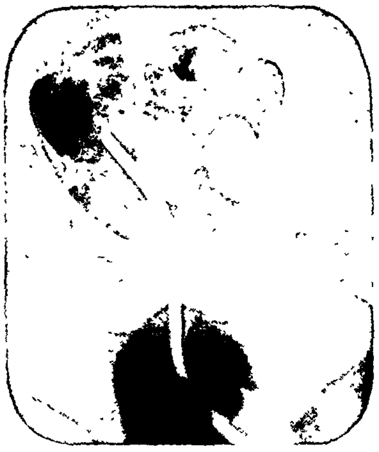

Fig. 2.—Bladder area, showing dumb-bell shadow and soft rubber catheter.

SUMMARY

1. Vesical calculi and diverticula are frequent complications of adenoma of the prostate, and routine cystoscopic and roentgenographic examinations should be made previous to operation, unless some definite contraindication is present.

2. Dumb-bell shaped stones are infrequently seen in the urinary tract and doubtless originate in the diverticulum, owing to the chronic stasis of urine, plus infection.

3. Infection is a large factor in the production of lithiasis, and every effort should be made to eradicate any focus as well as to clear up the renal involvement, for if this is not done the same factors are present for the reproduction of subsequent calculi.

1720 Q Street Northwest.

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[8] Stirling, W. C., and Lawrence, C. S.: Calcification of Renal Vein, with Bilateral Nephrolithiasis: Report of Case, J. A. M. A. **82**: 25-27 (Jan. 5) 1924.

KALA-AZAR

A CASE OCCURRING IN NEW YORK

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LACKAWANNA, N. Y.

The disease known as kala-azar occurs endemically in certain areas of India, China, Russian Turkestan and in the countries bordering the Mediterranean sea. In these localities also, epidemics in which the mortality rate is extremely high are not uncommon. In the Western Hemisphere, however, the condition is extremely rare, although the climatic and other conditions that the disease finds most favorable for its spread in the endemic areas of the Old World can readily be duplicated in America. To date, only four cases, three of which occurred in the United States, have been reported in American medical publications. Talbot and Lyon,[1] in 1918, reported a case seen in Boston in a Greek child who recovered, following splenectomy and the intravenous administration of antimony and potassium tartrate (tartar emetic). In 1923, Faber and Schussler[2] reported a case, successfully treated with antimony and potassium tartrate, in an Italian child seen in San Francisco. Martha Wollstein[3] recently reported from New York City a third case of visceral Leishmania infection in an Italian boy, 21 months old, who died from a complicating noma two weeks after the commencement of intravenous treatment with antimony and potassium tartrate. In addition to these three cases, Migone[4] reported a case in an Italian adult from Ascunçion, Paraguay, making the fourth case observed in the Western Hemisphere. The following is submitted as a report of an additional case:

REPORT OF CASE

History.—E. U., an East Indian, aged 22, was admitted to the Moses Taylor Hospital, Lackawanna, N. Y., April 6, 1924, following an accident. He was working on a scaffold about 15 feet from the ground, when the rope supporting the scaffold broke and he fell to the ground, striking his left side on a pile of iron bars. He complained of pain in the left hypochondrium.

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[1] Talbot, F. B., and Lyon, A. B.: Kala-Azar in a Child, Am. J. Dis. Child. **16**: 154 (Sept.) 1918.

[2] Faber, H. K., and Schussler, H., Jr.: Leishmaniasis in the United States, J. A. M. A. **80**: 93 (Jan. 13) 1923.

[3] Wollstein, Martha: A Case of Kala-Azar in an Infant, New York State J. Med. **25**: 413 (March 13) 1925.

[4] Migone, L. E.: Un Cas de Kala-azar à Asunçion (Paraguay), Bull. Soc. de path. exot. **6**: 3 (Feb. 12) 1913.

The patient was born and raised in the Calcutta district, India, and had been in the United States sixteen months at the time of his accident. He stated that his health had always been good, with the exception of an attack of fever five years before, which had lasted two weeks. He gave no history of contact with kala-azar cases and had successfully passed medical examinations at Colombo, the port of embarkation for America; at the Suez Canal, en route, and at the port of entry to the United States. For several years before coming to this country, he had been employed as a dock laborer at Colombo.

His father had died eight years before from a cause unknown to the patient. The mother, three brothers and one sister were all alive and had had no serious illnesses.

Physical Examination.—The patient was well developed and fairly well nourished. He complained of pain in the left side but had not the appearance of acute distress. His manner was listless and depressed. The abdomen was prominent, with slightly more marked fulness in the upper left quadrant. Slight tenderness was present in the left hypochondrium and, on pressure, into the left costovertebral angle. Resistance was present in the upper left quadrant on palpation, and a tense, rounded mass could be made out beneath the left costal margin, which extended downward and toward the midline about two finger breadths beneath the lower border of the ribs. The mass moved with respiration and was dull on percussion. No notch was felt on the border. The lower border of the liver was not palpable. No other organs or masses were palpable in the abdomen. Examination of the cardiovascular system, respiratory system, neuromuscular system and oral cavity revealed nothing of significance. The external genitals were apparently normal. Rectal examination revealed nothing abnormal. The extremities were normal, except for the absence of the right little finger, which had been amputated at the proximal interphalangeal joint.

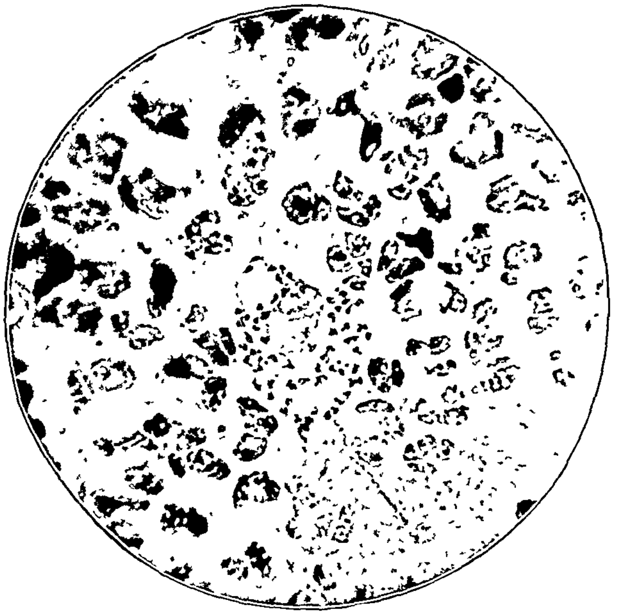

Fig. 1.—Smear from splenic pulp, showing a large mononuclear cell in the center, the cytoplasm of which is filled with Leishman-Donovan bodies.

Laboratory Findings and Special Tests.—On admission, blood was grossly present in the urine, persisting for more than two weeks in gradually lessening degree. Microscopically, blood (from 6 to 8 red cells per high power field in an uncentrifugalized specimen) was found continuously during the period of observation, as were also numerous granular casts. Albumin in moderate amounts was a constant finding. The specific gravity of repeated specimens was rarely above 1.015, and more often was in the neighborhood of 1.010.

Repeated blood counts have shown the red cells to be ranging in number from 3,300,000 per cubic millimeter, on admission, to 3,720,000 at the present time, with a high peak in the interval of 3,900,000 per cubic millimeter. The white cell count on admission was 5,000 per cubic millimeter, and at the present time is 3,200. In the interval, counts of 3,500, 3,100, 2,000, 1,800, 1,800, 2,300, 1,700, 3,080, 3,200, 2,140, 2,200, 2,300, 2,800, 2,600, 3,500 and 2,800 cells per cubic millimeter have been recorded. Smears showed very little change in the appearance of the red cells, while on differential counts of the leukocytes the polymorphonuclear types ranged from 50 to 39 per cent, the lymphocytes from 36 to 49 per cent, and the large mononuclear cells from 12 to 34 per cent, over the eleven months' period he was under observation. Repeated careful examinations failed to disclose the presence of microorganisms in blood smears. The coagulation time was only slightly slower than normal.

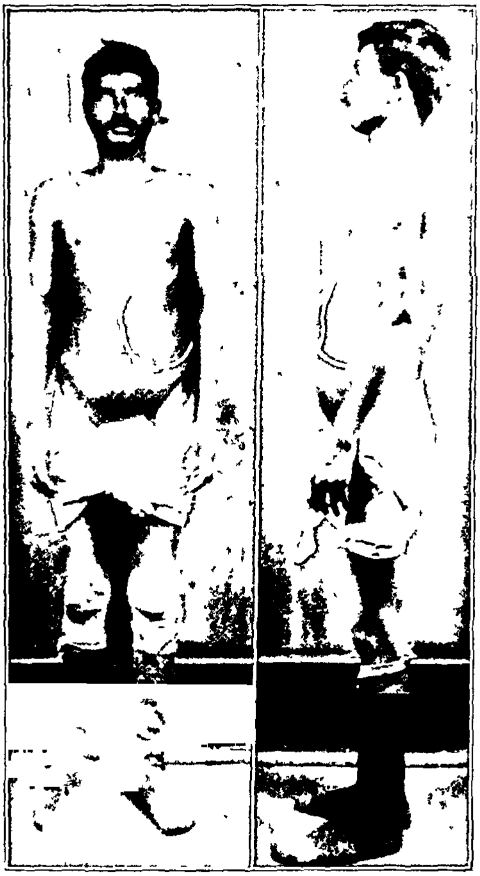

Fig. 2.—Kala-azar: wasting of the extremities and prominent ribs, in contrast to the tumid abdomen. The white outline indicates the degree of splenic enlargement.

The blood Wassermann reaction was reported negative, April 11, and a Widal test, taken April 14, was also negative. Repeated examinations of the sputum failed to demonstrate the presence of tubercle bacilli. Pirquet tests on two occasions gave negative results. The urine sediment showed no tubercle bacilli in direct smear, and on inoculation into a guinea-pig failed to produce tuberculous lesions.

No parasites or ova were found on microscopic examination of the stools, nor could blood be demonstrated macroscopically or by chemical tests. Roentgen-ray examination of the chest and abdomen revealed nothing of significance.

Course, Diagnosis and Treatment.—The diagnosis at the outset was obscured by the history of trauma and by the presence of hematuria. Undoubtedly the kidney had been ruptured as a result of the injury to the left side, and this was thought for a time to account for the symptoms exhibited. The persistence of an irregular pyrexia, after gross blood had disappeared from the urine, and after a reasonable time for the repair of any injury had elapsed, combined with an increasing enlargement of the spleen, at once brought up the possibility of some form of so-called primary splenomegaly. Early a suspicion arose that we were dealing with a case of kala-azar, because, besides splenomegaly, irregular pyrexia, leukopenia, diminution of the polymorphonuclear elements and increase in the percentage of large mononuclear leukocytes are also prominent features of that disease. However, the patient's general nutrition remained fair. No double remissions of temperature in a twenty-four hour period were noted, and repeated smears of the peripheral blood failed to show the presence of Leishman-Donovan bodies.[5]

May 13, the patient was placed on cod liver oil, one half ounce (15 c.c.) three times a day after meals, and at the same time efforts were made to improve by an increased diet his nutrition, which had fallen off somewhat since his admission. By July 22, he had gained several pounds and had been free from fever for a period of three weeks. The spleen showed appreciable, but slight, increase in size following admission, and there were no subjective complaints. The patient remained somewhat apathetic, and the blood picture was still far from normal, the white cell count being 2,300 per cubic millimeter and the red cell count 3,900,000. July 22, he was allowed to go home with instructions to report at the hospital twice a week for observation.

August 15, the patient was readmitted to the hospital, with a temperature of 100.4. On examination, the spleen was found to have increased in size and was now down to the level of the umbilicus, extending in width to the midline. An area of hyperpigmentation was noted, extending over the cheeks and the bridge of the nose; over the remainder of the body the color was distinctly darker than that of other members of his race. August 24, 25, 26 and 27, the temperature chart showed two distinct remissions in each twenty-four hour period—the first time that this phenomenon had been observed since the patient came under observation. The second week after readmission, he had an attack of bronchitis of moderate severity, and blood counts taken at this time showed a white cell count of 3,050 per cubic millimeter, and a red cell count of 3,540,000.

September 17, under general anesthesia, the abdomen was opened to the left of the midline by a 3 inch intermuscular incision, so as to expose the anterior border of the spleen. The spleen was found enlarged, firm, smooth and slightly purplish. The left kidney on palpation was apparently normal. A needle puncture was made in the anterior border of the spleen and a grooved director forced through the hole in the capsule to a distance of 1½ inches. By this procedure, a quantity of splenic pulp was obtained. Hemorrhage from the puncture was very free for a time but was controlled by the application of gauze pressure for a few minutes. The abdomen was then closed, and the patient returned to the ward in good condition.

Smears were made from the splenic pulp immediately and stained with Wright's blood stain. Typical Leishman-Donovan bodies were found in large numbers, both extracellular and in the cytoplasm of the large splenic macrophages (Fig. 1). Material was also taken to the laboratory of the Buffalo General Hospital, where Dr. Benjamin Roman, pathologist, confirmed my diagnosis.

September 25, intravenous treatment with antimony and potassium tartrate was commenced. An initial dose of 2 c.c. of a freshly prepared 2 per cent. solution was given and was repeated at three day intervals until November 17, when the patient developed an attack of acute bronchitis, which was succeeded, December 1, by an attack of acute mastoiditis. It was thought inadvisable to continue intravenous treatment during these complications, and conservative measures were adopted for the care of the mastoid infection, which quickly passed into a chronic phase—a small amount of discharge from the left ear continuing up to the time of this report. December 29, treatment with antimony and potassium tartrate was resumed, and each treatment was followed by a mild temperature reaction. The patient complained of abdominal distress, which lasted for from twelve to sixteen hours. Jan. 24, 1925, a dose of 3 c.c. of a 2 per cent. solution of antimony and potassium tartrate was given intravenously and was followed by nausea and vomiting. January 27, the dose was reduced to 2 c.c. of a 2 per cent. solution, and was again followed by nausea.

At this point it was thought advisable to discontinue the treatments with the drug, as no beneficial effect had been observed. The white cell count showed no appreciable change during the course of treatment that could in any way be ascribed to a beneficial action of the drug. The spleen, which at the commencement of treatment was down to the level of the umbilicus and extended to the midline, showed no regression as the result of treatment. The general nutrition of the patient had become noticeably worse (Fig. 2), and he still retained his listless and apathetic attitude. In all, twenty-five treatments were given, a total of 0.3 gm. of antimony and potassium tartrate.

February 1, quinin medication was begun, 10 grains (0.65 gm.) of the hydrochlorid after each meal, and this treatment was carried on until March 8, with no apparent change in the patient's physical condition. Subjectively, however, he was much better and left the hospital (March 8), against advice.

The patient has not been observed since that date.

COMMENT

This case is an example of the chronic type of the disease, which is so frequently seen in the endemic areas of India. Undoubtedly the infection in this case occurred before the patient left India and possibly dates back to the attack of fever that he had five years ago. It may be pointed out that chronic cases of kala-azar are not readily detectable by the hurried methods of examination necessary in the handling of large groups of immigrants. There is, therefore, in spite of the obscurity of the mode of transmission, some danger of the disease being imported and implanted in this country, unless more careful watch is maintained over immigration from endemic kala-azar centers.

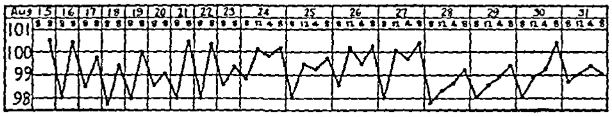

Fig. 3.—Temperature after readmission.

In this case it cannot be claimed that the antimony and potassium tartrate has effected a cure. Nevertheless, in the eleven months during which the patient was under observation, the disease, beyond noticeable enlargement of the spleen, had shown little progress, in spite of the associated severe trauma to the kidney, acute mastoiditis and several attacks of acute bronchitis. This would appear to be one of those cases in which the organism developed immunity toward the action of antimony and potassium tartrate, possibly as a result of the interruption of treatment during the course of an acute infection. Intolerance for the drug developed, although the dosage used has frequently been exceeded in other cases.

An important and debatable feature of the case under discussion is the relation of injury to the disease. Can the latent form of the disease, as in this case, be lighted up by injury to the organs harboring the Leishman-Donovan bodies? No reference to this question was found in the literature.[6] My patient, who previous to his injury was carrying on at his usual work, after all the effects of the injury had disappeared, was still unable to work, evidently on account of his Leishmania infection. This question, obviously, has an important bearing on the subject of compensation.

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[5] Leishman, W. B.: On the possibility of the Occurrence of Trypanosomiasis in India, Brit. M. J. 1: 1252, 1903. Donovan, C.: On the Possibility of the Occurrence of Trypanosomiasis in India, ibid. 2: 79, 1903.

Moses Taylor Hospital.

Special Articles

THE FREQUENCY OF BOTULISM

A REPORT OF OUTBREAKS FROM 1922 TO 1926

Occasional outbreaks of botulism continue to be reported in the United States. The rarity of the disease, often stressed by various writers, has apparently never been questioned. The publicity usually attendant on outbreaks has been less in recent years, but it would appear to be far in excess if one considers comparatively the recorded morbidity and mortality.

There is, however, and perhaps rightly so, great importance placed on each outbreak because of its fatal sequence to those who consume the contaminated and toxic food. Likewise, the relation of the intoxication to our preserved food supply is always decidedly menacing, as this supply is rapidly becoming economically more important in American households.

Lewis,[1] Jellinek,[2] McCracken,[3] Geiger, Meyer and Dickson[4] and Geiger[5] have summarized the data available since 1899. It may be of interest again to summarize the data to date (1926), going back, however, to the extensive report of Geiger, Meyer and Dickson, which indicates a total of ninety-one single or group outbreaks reported in the United States and Canada. A total of 345 cases with 213 deaths, or a case mortality of 61.7, was recorded. Only thirty outbreaks of their collected series were proved bacteriologically or toxicologically.

Since the publication, in September, 1922, of the report by Geiger, Meyer and Dickson, it has been possible to collect data in the United States dealing with fifty-six additional outbreaks, twenty-four of which have been proved toxicologically. There is included, however, in this series for statistical purposes one outbreak, which occurred in Scotland in October, 1922, from commercially canned duck paste, in which there were eight cases and eight deaths. Of the fifty-six outbreaks concerning which information is now available, twenty-one occurred in 1922, twelve in 1923, eight in 1924, eight in 1925 and the remainder in previous years. A total of 159 cases with 124 deaths, or a case mortality of 78 per cent, has been recorded.

If there is taken an eight-year period, 1918 to 1925, inclusive, an average of approximately thirteen outbreaks has occurred annually. This probably represents the average yearly occurrence of botulism in the United States. The number of outbreaks occurring in 1922 (twenty-one) was the largest number reported in any one year. It must be recognized, however, that food may be somewhat detoxified by heating or warming up just before being consumed, and the strength of the toxin so reduced that the mild cases resulting may be overlooked or not diagnosed as botulism.

To summarize, there have been reported in the United States and Canada from 1899 to date, and including one outbreak from England, 147 outbreaks, or a total of 504 cases with 337 deaths, giving a case mortality of 67 per cent; fifty-four outbreaks have been proved toxicologically and bacteriologically.

FOOD INVOLVED

The preserved food products concerned, so far as known, were: vegetables, in thirty-eight outbreaks; meat, four; fish, four; fruits, one; pickles, one, and the remainder, unknown. In thirty-six outbreaks the food was home canned and in eleven, commercially canned. The variety and type of preservation of causative food in these outbreaks is given in the accompanying table. Of the remainder the causative foods are unknown, with the exception of an outbreak that occurred at Longmont, Colo. Two foods were suspected, commercially canned spinach and home canned corn. A careful and critical survey of the epidemiologic evidence points to home canned corn, rather than to the commercially canned spinach. There are reported, however, conflicting toxicologic findings in a recovered empty can of spinach of the pack suspected. In addition, data are available as to five outbreaks in chickens, but only one was proved toxicologically. The causative foods were home canned asparagus, home canned corn (two), home canned string beans and home canned meat.

Food Responsible for Outbreaks

Home canned string beans	19
Home canned corn	6
Home canned asparagus	2
Home canned spinach	2
Home canned chile sauce	1
Home canned pimento	1
Home canned beef	1
Home canned figs	1
Home canned chicken	1
Home canned mixed pickles	1
Home canned salmon	1
Commercially canned olives	3
Commercially canned spinach	2
Commercially canned sardines	2
Commercially canned clam juice	1
Commercially canned duck paste	1
Commercially canned peas	1
Commercially canned meat	1

SPOILAGE

In the majority of outbreaks of botulism, the preserved foods responsible have been noted to be visibly spoiled. This spoilage may be a relative matter, as the containers can be normal in appearance and the disintegration of the contents so slight that no abnormal odor or taste is detected. Spoilage as to odor and appearance is, therefore, *a decidedly doubtful criterion* in botulism.

In the fifty-six outbreaks of botulism recorded in this study, information as to spoilage is available in forty-one. Eighteen of the foods implicated were stated to be normal in odor and taste and there was nothing unusual in the appearance of the container. In the remainder, twenty-three, the preserved food and its containers appeared abnormal, though it was tasted and served as food.

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[6] Rogers, L.: Fever in the Tropics, Ed. 3, Oxford University Press, 1919, pp. 1-55. Leishman, W. B., Allbutt and Rolleston: In System of Medicine, Ed. 2, London, Macmillan & Co., Ltd., 1911, pp. 226 240. Cummins, S. L.: The Oxford Medicine, Ed. 5, Oxford University Press, 1921, pp. 861-882.

[1] Lewis: South. Calif. Pract. **14**: 464, 1899.

[2] Jellinek: California State J. Med. **3**: 131, 1902.

[3] McCracken: The Leucocyte, Detroit, 1912.

[4] Geiger, Meyer and Dickson: Pub. Health Bull. 127, September, 1922.

[5] Geiger, J. C.: The Status of Bacterial Food Poisoning in the United States, Am. J. Pub. Health **14**: 309 (April) 1924.

TYPE OF TOXIN

Epidemiologically, the symptoms of botulism are due to preformed toxins in the food when the food is ingested. The type of toxin present has an important bearing, should treatment with antitoxin be instituted. In the outbreaks included in this series, information is available as to type in twenty-four. Of these, twenty were type A and four were type B.

GEOGRAPHIC DISTRIBUTION

Forty-six outbreaks occurred in the West, seven in the Middle West, and three in the East. None were reported from the Southern states.

Of the seven outbreaks reported in the Middle West, in four the food was canned in the West.

COMMENT

There are several matters of interest; mainly, the proved involvement of foods (sardines, meat and peas) which heretofore have not been noted in the United States. These outbreaks are of prime importance, as they focused attention on these particular foods and their type and method of handling and preservation. Two of these outbreaks were due to sardines of a like brand, mixed with tomato sauce. The product was canned in the West. One outbreak was due to commercially canned potted meat that was canned in the Middle West. The other outbreak was attributed to commercially canned peas that were canned in the Middle West. It is of interest to note that in the commercially canned peas and commercially canned potted meat, both canned in the Middle West, the type of toxin demonstrated was type B.

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

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Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 417)

LOCAL APPLICATIONS TO MUCOUS MEMBRANES

IN GENERAL

Applications to mucous membranes have to deal with water-soaked surfaces of great absorbing capacity for aqueous solutions, but insusceptible of penetration by oily liquids, unless these are volatile. Hence, as a general proposition—to which there are exceptions—aqueous rather than oily liquids are used as applications to mucous membranes because these membranes shed oil as the skin sheds water.

As living cells cover mucous membranes, agents that would be tolerated without detriment by the dead, horny surface of the skin may kill or severely injure mucous membranes. The various membranes differ among themselves in sensitiveness. The following general rule might be of some help to beginners, though it has many exceptions, chief among which is the nature of the medicament. The strength of lotions may, in general, be 1 per cent. This strength may be doubled for applications to the mouth or the vagina, while from one fifth to one tenth should be used for such delicate membranes as those of the eye or the urethra. Of course, the nature of the drug and the effect required may upset this rough rule. Eye drops are often employed in greater strength: from 0.5 to 1 per cent of atropine sulphate; from 2 to 4 per cent of cocaine hydrochloride. The condition of the disease further modifies this rule. For acute conditions, more dilute solutions are used; for chronic disease, stronger solutions may be required.

Unless osmotherapeutic effects are wanted, isotonicity is desirable for the more delicate membranes. As is well known, a 0.9 per cent solution of sodium chloride is isotonic with blood serum. It is less well known that it requires a 1.4 per cent solution of sodium chloride to be isotonic with tears; hence such a solution would be best for use in the eye, though 0.9 per cent solution is acceptable. In the mouth and throat isotonicity may be disregarded, as these membranes habitually deal with plain water.

As applications to mucous membranes are rapidly washed away by the natural secretions or absorbed into the blood, frequent application—hourly or even oftener—is required if anything like continuous action is desired.

The temperature of applications should be warm (from 95 to 100 F.), about body temperature, unless thermic effects are aimed at. Hot solutions increase the determination of blood to the part, which may or may not be desirable. Cold solutions also produce hyperemia, after a preliminary stage of vasoconstriction.

Owing to the fact that mucous membranes are actively absorbent, it is necessary to guard against systemic poisoning from absorption of highly active medicaments.

EYE MEDICATION

The conjunctiva is one of the most accessible as well as most sensitive of mucous membranes. Only mild applications are permissible as general applications to the conjunctival sac, though a strong medicament is sometimes painted on for strictly localized action.

Lotions are the most common form of eye medication, and instillation of a few drops by means of a glass pipet with a small rubber bulb (eye dropper) is their most common mode of application. Such solutions are known as collyria; popularly, "eye drops." The conjunctival sac may still more efficiently be flushed with large quantities of fluid (irrigation). The solution may also be kept applied over the eyelids by means of compresses.

In the use of collyria, the patient throws his head backward, the lower lid is gently drawn down, and the solution is dropped into the lower culdesac of the conjunctiva, while the patient turns his eye upward. Not more than one or two drops should be deposited on the conjunctiva of the lower lid at a time, touching the membrane with the pipet being carefully avoided. Then the eye is permitted to close gently, and the patient given a moist pledget of cotton to apply to the closed lid.

In the use of eye lotions, the temperature of the fluid is of importance; it should be at or slightly above the body temperature, unless special effects by heat or cold are aimed at. Hot solutions act more energetically than cold liquids. As a precaution against the constitutional effects of drugs, such as the mydriatics, not only should not more than one or two drops be used at a time, but it is also of advantage to press over the

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* This is the seventh of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

openings of the lacrimal canal for a few minutes to prevent passage of the fluid into the more actively absorbent nasal cavity.

Eye lotions should in general be isotonic with the tears as represented by a solution of 1.4 per cent sodium chloride. A 2 per cent solution of boric acid (half the strength of a saturated solution) requires no addition, being practically isotonic, a fact that probably accounts for the popularity of boric acid as an eye lotion. The osmotic tension of a 1: 1,000 solution of zinc sulphate is so low as to require practically the same amount of sodium chloride or of boric acid. Such a solution is popularly used in the treatment of acute conjunctivitis. To silver nitrate solution, sodium nitrate would of course be added, as sodium chloride is incompatible with it. A 1 per cent solution of cocaine hydrochloride is equivalent in osmotic effect to a 0.2 per cent solution of sodium chloride.[22] If one, therefore, multiplies the percentage of the alkaloidal solution by 0.2 and subtracts the result from 1.4, the required percentage of sodium chloride is obtained. This method is also approximately correct for other alkaloids used in eye work, such as atropine or physostigmine.

Alcoholic solutions, unless highly diluted, would be irritating to the eyes. Oil solutions do not spread well over the water soaked surface and may speedily be thrown off from it. Still, homatropine or cocaine is sometimes employed in oil solution with the idea of securing slower and more prolonged effect.

Eye drops must be free from insoluble particles, and should be sterile. It is most practical to keep them n small bottles with a pipet stopper.

Eye baths are administered by means of a suitably shaped cup. The eye cup, filled with the medicament, such as warm 3 per cent solution of boric acid, is applied to the region of the eye while the head is inclined downward; then the head is bent backward and the eye is opened. After the solution has been permitted to act for a few minutes, the head is again brought downward and the cup removed.

Eye irrigations (eye douches) are best administered by means of a suitable modification of the eye cup with inflow and outflow attachment, but may be given efficiently even from an ordinary irrigator or fountain syringe. Such irrigation frequently repeated—every hour or so—is of the greatest possible value in the treatment of gonococcus opthalmia neonatorum, for which purpose the infant, whose well eye is protected by a watch crystal fastened with adhesive plaster, may be laid head down on the drain board of an ordinary kitchen sink. Low pressure and scrupulous avoidance of the least traumatism are of course indispensable in such irrigations, and employment of the proper temperature is even more important with eye irrigations than with eye drops. In irrigation treatment of gonorrheal ophthalmia, cool solutions seem to be preferred.

Eye compresses are contraindicated in infectious conditions of the conjunctiva, as the closure of the eyelids produced by them converts the conjunctiva practically into a closed sac, which favors the retention of secretions and the growth of micro-organisms. The opening and closing of the eyelids, together with the secretion of tears, are too valuable for the cleansing of the conjunctiva in these conditions to be interfered with by an application. Moist applications are also contraindicated in eczema of the eyelids, as in eczema of other parts of the skin. On the other hand, moist compresses are useful in the treatment of inflammatory processes of the eyelids (such as hordeolum), in dacryocystitis, and for the relief of the pains of iritis.

For moistening such compresses, 3 per cent boric acid solution, 1:3,000 mercuric chloride solution or 1:10,000 mercuric oxycyanide (N. N. R.) may be employed. To prevent maceration of the eyelids it is well to apply an indifferent ointment, such as petrolatum, to the lids. The moist compress is covered by waterproof material, and a roll of bandage is applied.

Stronger solutions may be painted on the tarsal conjunctiva than would be used as eye drops or irrigations. For instance, in trachoma and in gonorrheal ophthalmia, from 1 to 2 per cent solutions of silver nitrate are applied by means of a cotton wrapped applicator to the everted eyelids, while the patient is asked to close the lids firmly. This everts the eyelid still better and at the same time protects the cornea against the solution. Immediately after the application, the part is irrigated with physiologic solution of sodium chloride.

Minute gelatin disks medicated with definite quantities of potent drugs, such as atropine or physostigmine, are occasionally used in the eye instead of aqueous solutions. Their chief advantage lies in their portability and in the fact that, by their slow solution, the drug is maintained more continuously in contact with the conjunctiva than it would be were it applied in aqueous solution. The disk is applied by placing it against the conjunctiva by means of a moistened camel's hair brush or cotton applicator.

Eye salves are intended sometimes for application to the margin of the eyelids, sometimes for the eye itself. A simple ointment such as petrolatum or cold cream should always be applied to the margin of the eyelids of discharging eyes to prevent the sticking together of the eyelashes over night, which impedes drainage, thus permitting the extension of infection. Salves are applied by pulling down the lower eyelid by downward pressure on the cheek and applying the ointment to the margin of the lower lid by means of an applicator. As an example of such salves may be mentioned the ointment of yellow mercuric oxide, which is popularly used for prevention of recurrence of styes. This ointment, which is in the new U. S. Pharmacopeia of 1 per cent strength—it was formerly of 10 per cent strength and had to be diluted—is most conveniently dispensed in collapsible tubes with a small blunt point tip suitable for direct application to the eyelid margin.

Ointments may be preferred to aqueous solutions in the treatment of chronic processes of the conjunctiva in which a mere prolonged action is desired. As absorption and penetration are slower from ointments than from solutions, higher concentrations of medicament may be used in the former than in the latter, as 7: 1,000 zinc sulphate. When the eye itself is to be treated by salve, the lower lid is pulled down and the salve applied to the conjunctiva of the lower lid, which is then permitted to close. Gentle massage may now be applied to the lids to distribute the ointment more generally over the conjunctiva. It is well to call the patient's attention to the fact that this application is followed for a short time by impaired vision, owing to irregular refraction of light rays by the salve covering the cornea. Salve compresses, obtained by thickly applying boric acid (3 per cent) petrolatum to the pledget of gauze laid over the eye, are useful to protect the eye in insufficient closure of the eyelids (lagophthalmos) and in facial paralysis.

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[22] Knight, W. A.: Chemist and Druggist, Jan. 13, 1923, p. 59.

NOSE MEDICATION

The nasal mucous membrane is rather difficult of thorough access and also very sensitive. Only a gas can pervade the complicated passage in its entire extent. Chlorine is employed for this purpose (to be discussed in detail subsequently). Snuffing up powders or fluids is a very imperfect method, and snuffs are not as popular now as they were in days of old. Powders are better blown into the nose by means of powder insufflators; though, even then, they are probably of little use in diffuse nasal affections. Applications made under direct inspection will reach portions of the nasal mucosa inaccessible to drops.

Nose drops, generally antiseptic or astringent aqueous solutions, are instilled into the nasal passage by means of a medicine dropper. After instillation of the drops, lowering the head between the knees when the patient is sitting helps the medication to reach portions of the upper nasal passages. The popular 10 per cent solution of mild silver protein or one of its modern colorless succedanea like neosilvol or lunosol is an example of these. Nasal lotions (collunaria) are more dilute aqueous solutions poured into the nose from the palm of the hand or a teaspoon, while the head is thrown back, or, better, by means of a little nasal douche apparatus with inflow and outflow arrangement devised for this purpose.

In the prescribing of nasal lotions, pleasantness of flavor should be aimed at: for the solution invades the very citadel of olfaction. Thus, any one who had the choice between Compound Solution of Sodium Borate, N. F. (Dobell's solution), and the Alkaline Aromatic Solution, N. F.[23] would prefer the latter to the former. The two solutions are almost equivalent in borate and bicarbonate (1.5 to 2 per cent). Dobell's solution is flavored with 0.3 per cent phenol—one could hardly say medicated, there is so little of it—while the alkaline aromatic solution is flavored with methyl salicylate (wintergreen), eucalyptol and thymol, and colored a pleasing red by cudbear. Sollmann, in facetiously dubbing this solution a "psychic" antiseptic, has applied an appropriate term. It is popular because of its psychic, its esthetic, qualities. This solution, mixed with an equal amount of warm water, forms an eligible detergent lotion for the nasal mucosa.

Nasal irrigation with large quantities of fluid under pressure of the douche bag is more thorough in its action but also more dangerous than nasal douching. When fluid is injected under pressure, the solution escapes from the other nostril, owing to the fact that the palate rises so as to shut off the nasopharynx from the pharynx, and thus the stream is directed out of the opposite nostril. There is danger from such injections that the fluid may enter the eustachian tube, and through it the middle ear, which is liable to become infected in consequence. Hence, the patient must be cautioned not to attempt swallowing or speaking, lest these acts open the eustachian tube; and care should be taken to give the irrigation at the lowest possible pressure. The use of a small caliber hard rubber tube which has perforations along its wall and is passed along the floor of the nose, as suggested by Freer, adds to the safety of the procedure. Such irrigations are chiefly indicated in ozena. For nasal irrigation, approximately isotonic solutions only should be employed; and these, as they are needed in quantity, are most economically prepared by the patient himself —from one-fourth to one-half teaspoonful of either sodium chloride, sodium bicarbonate or borax to 250 cc. (a tumblerful) of water. The patient should be given the following special directions: The solution must always be used at about body temperature (100 F.); never cold. It should be introduced through the narrower side of the nose so that outflow may be easier than inflow. The fluid should enter horizontally and not vertically; otherwise, headache might result. That the fluid pass more readily out of the other nostril, the head should be slightly inclined forward, the escaping fluid being caught by a basin held under the chin. During the irrigation swallowing must be avoided, the patient breathing through the mouth. If swallowing is unavoidable, the irrigation must be stopped instantly. After the irrigation, blowing the nose should be avoided until after excess of fluid has escaped from the nose; and then, as always when blowing the nose, only one side compressed at a time.

Lotions should be used only when there is something to wash away, and even then the treatment had better be finished with an oil spray, because a lotion tends to remove the protecting layer of mucus and thus leaves the membrane in a condition easily irritated by very cold or very dry air. Therefore a film of oil or other demulcent should be applied after the use of a lotion in the nose. By "spray" we understand a liquid blown into minute particles by means of a strong current of air or of steam. Though not as effectual for cleansing as are douches or irrigations, sprays are safer; and, for other actions, often superior. For medicating the nasopharynx, a long straight tip is attached to the spray apparatus and passed horizontally through the lower meatus of the nose. The further discussion of sprays will be taken up under "Medication of the Respiratory Air Current."

For more prolonged localized application of medicaments to the nasal membrane, pigments, ointments or properly shaped suppositories may be used. A tampon (which is nothing more or less than a compress placed in a cavity) of lamb's wool, a tuft of it about an inch long, lightly folded end first inserted into the nose, is more likely to be useful for filtering the air in hay-fever than for medication. By reason of the sensitiveness of the nose, nasal tampons are not very popular, excepting perhaps in the treatment of epistaxis and ozena. Strictly localized affections are best treated by painting the involved area with the appropriate medicament. A good example of this is the efficiency in epistaxis of cauterization of the bleeding point, which is most commonly found on the cartilaginous septum near the apex of the opening of the nostril (Kieselbach's point). A small crystal of chromic acid or of silver nitrate does the work, preferably applied after touching the part with a mixture of equal parts of solution of epinephrine hydrochloride and of the solution of procaine hydrochloride of the National Formulary. The former is the 1:1,000 solution, now official in the U. S. Pharmacopeia. The solution of procaine hydrochloride contains 2 per cent of procaine hydrochloride (first introduced as "novocaine") in physiologic sodium chloride solution, preserved by means of thymol. Chromic acid applications should be neutralized immediately by touching the cauterized area with sodium bicarbonate solution.

(To be continued)

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[23] It is because no antiseptic action, excep[illegible] can be expected from it that the name of the "Alka[illegible]" of the N. F. IV has been changed to "Alkaline [illegible]."

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SATURDAY, FEBRUARY 13, 1926

THE RECENT INCREASE IN PULMONARY CANCER

Medical literature has exhibited recently an unusually large number of articles on cancer of the lung, which, apparently without exception, comment on the increased frequency of the condition. Not so long ago primary cancer of the lung was looked on as a rarity, and as late as 1912 Adler,[1] in a monographic study, was able to collect reports of only 374 cases. The number of cases that have been reported since that time is so great as almost to defy enumeration, and now lung cancer is recognized in many places not as a rare but as a common form of neoplasm. While the necropsy records of many laboratories show that from 3 to 5 per cent of all cancers arise in the lungs and bronchi, in some places 10 per cent or more of the cases of cancer seen post mortem are pulmonary carcinomas. According to Kikuth,[2] lung cancers rank second among the visceral neoplasms in the Hamburg necropsy records, being one third as common as cancer of the stomach. There seems, therefore, to be no doubt that this increase is actual. Of course, part of it is to be explained by an increased frequency of clinical diagnoses of primary lung cancer made by use of the roentgen ray, leading to particular effort to secure confirmation of diagnosis through postmortem examination. But when necropsy statistics are investigated in European communities where a relatively large proportion of all deaths are followed by anatomic study, it is found that the increase is far too great to be explained by improvements in clinical diagnosis. For example, in Basel, where postmortem examinations are numerous, Staehelin[3] found an increase from 1.76 per cent of lung cancer among all cases of cancer, before 1906, to 5 per cent of all cases in the period from 1912 to 1924. In Jena, where it is said that a majority of all deaths are followed by postmortem examination, a rise from 2.2 per cent in the period of 1910-1914 to 8.3 per cent in the 1920-1924 period is reported by Berblinger.[4] The figures in Leipzig are said to have risen to more than 10 per cent in the same period, and in the first half of 1924 no less than 15.5 per cent of all carcinomas were found to be primary in the lung. In Hamburg before 1895 less than 1 per cent of the cancers seen at the necropsies arose in the lung, but since then the proportion has risen steadily to 9.4 per cent. It will be noted that this change is in no way dependent on any alteration in the total or relative cancer death rate, since these figures are based entirely on the proportion of lung cancers among all cancers found in dead bodies. In this country a similar increase has been noted in the small necropsy statistics at our disposal, and has been discussed by several writers, including Moise,[5] Barron[6] and Fried.[7]

Why should there be such a distinct increase in frequency of lung cancer? Presumably, since cancer is commonly the sequel of chronic irritation, some change of this sort is responsible. The classical, if perhaps not altogether convincingly demonstrated, frequency of lung cancer in the Schneeberg miners of ores containing arsenic and cobalt supports the idea that lung cancers are no exception to the rule that irritation precedes cancer. It therefore is not surprising that the increased smoking of cigarets, with inhalation of the smoke, in contrast to the former more prevalent practice of pipe and cigar smoking without inhalation, comes up for consideration. There are no reliable statistics to permit the evaluation of this factor, although in its favor is the large excess of males among the victims of lung cancer; but this discrepancy is also exhibited by other cancers not in the range of cigaret smoke. Irritation by dust can hardly explain the change, for, in the first place, no such augmentation of our civic dustiness has taken place, and, secondly, dusty trades as a rule show no abnormally high lung cancer rate. Nevertheless, Hampeln has supported this contention by maintaining that there is no increase in pulmonary cancer in Oslo, because of its immaculateness. Of more probable significance is the influence of influenza, for to a large extent the augmentation of lung cancer has followed the great epidemic of 1918. This is made especially likely by the fact that the pathologic changes seen in the lung are of a character that suggest precancerous epithelial proliferations, as was pointed out by Askanazy and Winternitz, among others. The latter called attention to the similarity of the changes to those produced in the lungs by chemical irritants,

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1. Adler, I.: Primary Malignant Growths of the Lungs and Bronchi, New York, Longmans, Green & Co., 1912.
2. Kikuth, W.: Ueber Lungencarcinom, Virchows Arch. f. path. Anat. **255**: 107, 1925.
3. Staehelin, R.: Ueber die Zunahme des primären Lungenkrebses, Klin. Wchnschr. **4**: 1853 (Sept. 24) 1925.
4. Berblinger, W.: Die Zunahme des primaren Lungenkrebses in den Jahren 1920-1924, Klin. Wchnschr. **4**: 913 (May 7) 1925.
5. Moise, T. S.: Primary Carcinoma of the Lungs, Arch. Int. Med. **28**: 733 (Dec.) 1921.
6. Barron, Moses: Carcinoma of Lung, Arch. Surg. **4**: 624 (May) 1922.
7. Fried, B. M.: Primary Carcinoma of Lungs, Arch. Int. Med. **35**: 1 (Jan.) 1925.

and suggested the possibility that an increased frequency of lung cancer might be expected to follow the influenza epidemic. Certainly an increase has come, and numerous authors have accepted the influenza epidemic as the most probable explanation, among them Berblinger. However, the clinical records in a large proportion of the investigated cases have not shown any history of influenza, and Staehelin points out that in many statistics the rise of the lung cancer curve began a few years before the influenza epidemic. He suggests that the increased practice of tarring the roads and streets may be the explanation, having in mind the experimental and clinical observations on the production of cancer with tar. He points out that Möller painted rats on the skin of the back with tar, and observed in six of his animals not skin cancer as expected but cancer of the lungs; and that Kimura produced lung cancers in rabbits and guinea-pigs by insufflating tar through a tracheotomy wound. These observations are suggestive, but good statistical evidence is lacking that the frequency of lung cancer varies greatly among populations in districts with tarred or untarred streets; in fact, there is some evidence to the contrary. In view of what is now known, we can only conclude that, although there is undoubtedly a marked increase in the frequency of primary cancer of the lung, the reason for it is not yet established, but the possibility that it is a sequel of the influenza epidemic seems strong. If so, an abatement of the curve should soon be observed. In any event, there seems to be no evidence that it is a consequence of the use of war gases, as has been suggested, for few indeed of the victims of lung cancer have ever been exposed to this source of pulmonary injury. The possibility remains, however, that the increased inhalation of irritating gases from automobiles, imperfect fuel combustion, and industrial processes may be factors of importance.

"SANOCRYSIN" AGAIN

In spite of the disappointing results from the use of "Sanocrysin" in animal tuberculosis in the careful experiments carried out for the Hygienic Laboratory by Drs. Theobald Smith, William H. Park and E. C. Schroeder, it is possible that some renewal of interest may arise as a result of recent papers by European[1] physicians on the use of sodium-gold thiosulphate in human cases of tuberculosis. One naturally views with doubt the value of these reports, since these physicians have discarded the theories of the original presentation and, to a large extent also, the use of antitoxic serum. They thus place the substance in the category of the gold salts used in the therapy of tuberculosis, with which a long record of varied experiences is available.

The tendency to study the influence of therapeutic agents on human diseases is followed more widely in European countries than is now the custom in the United States. In this country, when it is possible to study a disease in animals, the preference is to make sure that good results follow attempts to cure in animals before giving the drug to patients. This is especially true of tuberculosis, for which so many cures are urged.

Tuberculosis can now be produced and followed, even in its mildest form, in different animals, and occurs as a spontaneous disease in many species; naturally, there should be some assurance of the value of a drug in animals before human experiments are justified. This position is more logical as sanatorium and home treatment, under strict supervision, has given such excellent results in the treatment of tuberculosis that a suggested cure must offer much better results before we should give it up. But there are always cases in which failure attends the best efforts, and it is in these that hope leads to trial of other things, among them gold in the form of "Sanocrysin." Every trial in the past with gold has failed, but the hope still continues that it may be curative.

Recent clinical reports draw a parallel between gold and arsphenamine. The use of gold salts in the treatment of tuberculosis always involves a risk of serious injury to the patient's tissues. The kidney lesions and the dermatitis that have been noted as a result of gold therapy are similar in all essential respects to those produced by mercury and the arsenicals.

With regard to the action of gold salts (including "Sanocrysin") on pathogenic organisms in the test tube, it is true that they appear to act in the same manner as arsphenamine on spirochetes in the body. But no conclusive proof has been furnished that either of these two substances has any action whatever on tubercle bacilli in the body. It would be a mistake to infer from the potency of gold salts in the test tube and of arsphenamine in syphilitic infection that these drugs exercise therapeutic action in tuberculosis. The spirochetes are extracellular organisms, presumably more easily reached by drugs, whereas tubercle bacilli, in the main, are intracellular and therefore less accessible. Tuberculosis and tuberculin reactions produce lesions of the same structures of the kidney as do the heavy metals, and thus there may be a summation of serious effect following the use of gold in the tuberculous animal.

It is possible that the use of gold may have some value, but there is no evidence for this at hand today and the wisdom of American physicians in awaiting definite proof of action in animal tuberculosis before using it in the human disease will save much suffering and distress.

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[1] Faber, K.: Klin. Wchnschr. 4: 2429, 1925. Elliott, T. R.: Lancet 1: 126 (Jan. 16) 1926. Würtzen, C. H.: Wien. klin. Wchnschr. 38: 1373, 1925.

TOLERANCE TO ALCOHOL

The susceptibility of different persons to a drug sometimes shows marked variations; occasionally the same individual exhibits variations in sensitiveness at different periods, owing to changes in his physiologic condition or to other factors that cannot be evaluated. Such inequalities in susceptibility are by no means identical, however, with what is commonly described in pharmacologic circles as tolerance. The latter is acquired through continued use of the drug, so that an habitual consumer is often able to take without conspicuous characteristic effects quantities that would lead to untoward results in unaccustomed persons. This is notably true of opium and its derivatives; it is likewise familiar in connection with alcohol. Instances are recorded in which steady drinkers have been in the habit of taking alcohol in daily doses exceeding 10 cc. per kilogram of body weight; that is to say, for an adult, no less than 23 ounces of absolute alcohol, or well over 2 pints of whisky at proof, "more than enough to kill a neophyte." [1]

More dependable information regarding the underlying physiologic features of tolerance, and likewise of addiction, is obviously desirable. In the case of alcohol, the evidence remains uncertain. Two possible explanations have predominated. Tolerance conceivably depends on an increased resistance of the body cells to alcohol, an augmented capacity of the organism to dispose of alcohol by oxidation, or both. If there is an increased disposal of the substance, it may be expected that after a given dose the amount present in the blood would not rise to the same level in an habitual drinker as it would reach in the case of a person who had not acquired tolerance. An instance compatible with such an interpretation has lately been described by Hansen of Oslo,[2] in confirmation of earlier indications.[3] Of course, this does not gainsay the possibility of simultaneous increases in cellular immunity against alcohol. According to Pringsheim,[4] a tolerant animal may show few or no signs of intoxication even when its blood contains enough alcohol to cause well marked symptoms in an unaccustomed animal. It is possible, therefore, that when tolerance has become established, either the access of alcohol to the nervous centers is in some way impeded, or, as is more likely, the nerve cells react less readily to its presence.

According to the English students of alcoholism,[1] it seems likely that while the nerve cells of the habitual drinker become tolerant to the presence of alcohol, other body cells are less able to accommodate themselves to it, with the result that they are liable to be injuriously affected, if the development of tolerance in the nervous system leads, as it naturally tends to lead, to the taking of larger doses of the drug. That is advanced as a reason why drinkers who have, as they would say, strong heads for liquor and who can consume a great deal of alcohol without becoming drunk, are likely to suffer in the long run from some of those bodily disorders characteristic of chronic alcoholism. On the other hand, people who are especially susceptible to the intoxicating action of alcohol are to a great extent protected from excess by that very fact. Just because they are so easily made drunk, they escape the more serious evils of chronic poisoning. Hence, the English writers believe, from the point of view of general health, the acquisition of tolerance really implies the removal of a protective mechanism—it allows the drinker to use the drug in doses which he could not have taken if his brain cells had retained their normal power of reacting to it.

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[1] Alcohol: Its Action on the Human Organism, London, H. M. Stationery Office, 1918.

[2] Hansen, K.: Experimentelle Untersuchungen über Gewohnung an Alkohol bei Menschen, Biochem. Ztschr. **160**: *291* (July) 1925.

[3] Schweisheimer, W.: Deutsch. Arch. f. klin. Med. **109**: 271, 1913; Inaug. Diss., München-Leipzig, 1913. Gabbe, E.: Deutsch. Arch. f. klin. Med. **122**: 81, 1917.

[4] Pringsheim, J.: Biochem. Ztschr. **12**: 143, 1908.

Current Comment

PHYSIOLOGIC ASPECTS OF GLARE

Glare is a conspicuous manifestation of our period: the glare of the footlights, the glare of the headlights, and the glare of the great white ways. Since the advent of the automobile, glare has become a subject of legislative enactments. It has been defined as "a brightness within the field of view of such an excessive character as to cause discomfort or interference with vision." [1] Evidently the physiologic aspects of the subject need to be considered more critically, as has recently been attempted by Nowakowski [2] at the School of Hygiene and Public Health at Johns Hopkins University. He has discovered that glare is a condition of visual discomfort which is dependent on two factors, both due to contrasts of illumination on the retina. One is attributable to the failure of the eye to adapt itself to a stimulus of small area and high intensity, in consequence of which there is irritation of the hypersensitive retina. The contrast between the glare spot and the surrounding retina produces discomfort that is proportional to the intrinsic brilliancy of the glare light. The other factor is a depression of visual acuity when there is a sufficient contrast between the illumination of the glare spot and that of the fovea. The depression of central vision by peripheral glare has been experimentally measured by Nowakowski. Probably central glare gives a similar depression of peripheral vision. Visual disturbance, we are told, is proportional to candle power; local irritation, to intrinsic brilliancy; and discomfort, to a combination of the factors. It is possible, further, that oculomotor reflexes may be started by the overstimulation of the light-perceiving elements of the retina and thus add to the discomfort. These considerations have led to the abandonment of some of the older physiologic explanations of the phenomenon of glare. The diffraction of the lens is no longer held responsible for it. The hypothesis that the effect is due to a psychologic inhibition and the trouble therefore located in the central nervous system likewise seems untenable; for change in visual acuity produced by glare in one eye is without effect on the other, contrary to what would be expected if the nervous centers were concerned in the result. It is important to recognize clearly that the discomfort due to glare is actually attended with impaired efficiency of the eye.

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[1] Clark, J. H.: Lighting in Relation to Public Health, 1924.

[2] Nowakowski, B. A.: The Measurement of Glare, Am. J. Hyg. **6**: 1 (Jan.) 1926

CHIROPRACTIC NOT HARMLESS

A decision by the Supreme Court of Illinois[1] relating to chiropractic has brought out a new answer to the claims of chiropractors and practitioners of similar methods. The defendants in the case argued that practice of chiropractic was "a useful and harmless calling which cannot be regulated by the state." This claim was declared to be so entirely without merit that any discussion of it was unnecessary. The decision went on to state, however, that "if a chiropractor can, by manipulation, move a dislocated vertebra so that the pressure on a nerve can be relieved and paralysis cured, he can by the same process dislocate a vertebra and cause a paralyzed condition. Any method of treating human ailments which, when practiced skilfully, can restore a diseased human body to health is capable of doing great harm when practiced without care or skill. A method of treating human ailments cannot be both useful and harmless. If it is sufficiently efficacious to be useful, it is at the same time capable of producing harmful results." The chiropractor, no less than the physician or any one else who is to treat the sick, needs to have a sufficient training in the fundamentals of medicine so that he will know at least when his manipulation may be harmful.

PROGRESS OF STATE SOCIETY JOURNALS

In 1913, at the suggestion of the editors of several state medical journals, the work of the cooperative advertising bureau was begun. The cost of operating medical periodicals was proving almost prohibitive in some states. Others, in order to avoid financial loss, were being forced to accept advertising from the makers of doubtful preparations. At that time, many of the state journals were poorly printed on poor paper. Some were small, some large. A collection of them displayed not even the two-by-two uniformity of the passengers in Noah's Ark. It seemed to these editors that a central advertising bureau, located at the headquarters of the American Medical Association, could obtain advertising business not for one but for many journals. In this way, soliciting expense would be spared to the journals and greater circulation obtained for the advertisers. Furthermore, the close association of such a bureau with the Council on Pharmacy and Chemistry would result in printing only the advertising of manufacturers of ethical products, rather than that of any applicant who could pay for space. This year virtually marks the completion of the program set in operation in 1913. Thirty state journals are now members of the cooperative advertising bureau. Only one is not a member of it. These thirty journals are now appearing with a uniform six by nine inch type size of page. Many of them, with the current year, are adopting more attractive covers. All are being printed on good paper. One can turn the pages of almost all of them and never see an advertisement of which an ethical journal would be ashamed. They are solvent and unafraid. The efforts of the state societies, editors and managers since 1913 have had much to do with bringing about this better state of affairs. At the same time, a great deal of credit belongs to those who conceived the idea of the cooperative advertising bureau and to those who have directed its activities, whereby more and better business has been obtained at half the cost of the same volume of advertising if it were obtained through individual solicitors.

PHYSICIANS IN CONGRESS

The Congress of the United States is made up of ninety-six Senators and 435 members of the House of Representatives. About two thirds of these congressmen are lawyers or have had legal training. The remainder are mostly business men, farmers and publishers, with a sprinkling of educators and engineers. Only six are physicians, five of whom are members of the House. There are three dentists, two of whom are in the House. In previous Congresses the number of physicians has been slightly greater, though the profession has never been well represented at the capitol. The only physician in the Senate is Royal S. Copeland, democrat, New York, who was health commissioner of New York City. He has served as vice president of the American Public Health Association. The dentist in the Senate is Henrik Shipstead, Farmer-Labor, Minnesota. Two other Senators, Woodbridge N. Ferris, democrat, Michigan, and George H. Moses, republican, New Hampshire, studied medicine for brief periods. Three of the physicians in the House are republicans and two are democrats. Three were in active practice when elected, while one was engaged in farming; the other, who is also a lawyer, was specializing in legal medicine and the practice of law. Dr. E. M. Irwin, republican, Belleville, Ill., graduated from Missouri Medical College of St. Louis and practiced from 1892 until elected to the Sixty-Ninth Congress. Dr. Ladislas Lazaro, democrat, Washington, La., has been a member of the last seven Congresses. He was educated at Holy Cross College, New Orleans, and graduated in medicine in 1894, having been in active practice until 1913. Dr. John J. Kindred, democrat, Astoria, N. Y., studied medicine at the University of Virginia and Hospital College of Medicine of Louisville, Ky., from which he took his M.D. degree in 1889. He is also a law graduate and has lectured on medical jurisprudence and is especially interested in mental disease. He served in the Sixty-Second Congress and from the Sixty-Seventh to date. Dr. William T. Fitzgerald, republican, Greenville, Ohio, graduated from Wooster University Medical School and practiced until elected to the Sixty-Ninth Congress. Dr. John W. Summers, republican, Walla Walla, Wash., engaged in the practice of medicine for twenty-five years after graduating from the Kentucky School of Medicine and the Louisville Medical College. He has been in Congress since the Sixty-Seventh Congress. The two dentists in the House are Dr. Roy O. Woodruff, republican, Bay City, Mich., and Dr. Frank Crowther, republican, Schenectady, N. Y. Both have served in a number of Congresses. Although these physicians and dentists are the only representatives of their professions in Congress, the biographic sketches of some other members, as given in the Congressional Directory, reveal an interest in public health and medical matters. Thus, Mr. Robert G. Houston, a lawyer, republican, Delaware, was a member of the first state antituberculosis commission and is now vice chairman of the commission for the feebleminded, while Representatives Louis A. Frothingham, Massachusetts, Ernest R. Ackerman, New Jersey, and John M. Morin, Pennsylvania, are trustees of various hospitals.

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[1] People v. Walder (Ill.) 148 N. E. R. 287 (J. A. M. A. 86:371 [Jan. 30] 1926).

Association News

THE DALLAS SESSION

Barbecue for Doctors

Typical Texas entertainment is planned for the Annual Session of the American Medical Association, which will convene in Dallas, Texas, April 19-23. A barbecue tendered by Dr. John H. Dean for the 5,000 physicians, guests and exhibitors, totaling more than 10,000 visitors to the Lone-Star State, is an unusual feature planned for this occasion. Eminent physicians will witness carving under the supervision of Mr. Max Hahn, for forty years expert "barbecuer" of Dallas.

Last June, Dr. Dean selected eighty cows with calves about 6 weeks old out of a herd of 4,000. These cows were selected according to size, vigor and milk producing qualities, so as to insure a rapid, healthy growth for each calf. The eighty cows and calves were turned into a six-section pasture which had not been used, and which contained an abundance of fresh food and water, assuring the cattle of a properly selected, scientific diet. It is customary to wean calves from the mother after six months, but this plan was not followed with the calves to be used for the barbecue, in order that they might secure their mother's milk, so as to provide the best nourishment for rapid, healthful growth. A full diet was begun for the cattle in December. The calves will be killed in advance of the session and the meat prepared so as to be in the best condition for the barbecue. Mr. Tony Bazar, with a corps of able assistants, has been delegated to arrange for the service during the barbecue.

Family Physician as Educator.—If we are to guide people in the ways of health, if the community guards the health of its mothers, its babies, its school children, its industrial workers, the family doctor must become an educationist and in part a health administrator. If he does not, his rôle will suffer progressive diminution, curtailed as it will be on the one hand by the whole-time health official, and on the other hand by the invading specialist. This will, in my judgment, be a disadvantage to the community. The family doctor should remain the foundation of medical service, but his outlook, functions and training need modification to meet changing needs. First must come his care of the sick, but beyond that he will have communal and educational duties.—Dawson, L.: *Lancet* **1**:3 (Jan. 2) 1926.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Surgical Association Meeting.—The Pacific Coast Surgical Association will meet at Del Monte, February 26-27, under the presidency of Dr. Charles D. Lockwood, Pasadena. Clinics will be held at San Francisco two days previous to the Del Monte meeting. Dr. Arthur Dean Bevan, Chicago, will be the guest of the association, and will speak on "Pathology, Diagnosis and Present Status of Surgical Treatment of Peptic Ulcer."

San Joaquin Health District.—Since the full-time health organization began to function in the San Joaquin health district, the death rate has dropped from 14.04 in 1923 to 12 per thousand in 1925, excluding deaths at Stockton State Hospital. Deaths from infectious diseases declined 25 per cent last year, although an epidemic of whooping cough in the spring caused the death of thirteen children. There were five deaths from typhoid last year and thirteen in 1924, one from diphtheria, as against ten in 1924, and one from scarlet fever, as against four in 1924. The infant mortality rate increased from 57 per thousand births in 1924 to 69.8 in 1925. The birth rate was 17.9 in 1925, a decided decrease from 19 in 1924.

Miscellaneous Items. — Dr. Warren F. Fox has been appointed health officer of Pasadena to succeed Dr. Frank W. Hodgdon, Jr.——During December, 1925, 1,364 children in Sacramento were immunized against diphtheria under the direction of the city health department.——The health officer of Los Angeles County has successfully prosecuted a physician in his district who has persistently failed to file birth certificates as required by law.——Dr. Harry F. Smith has been appointed health officer of the city of Piedmont to succeed Dr. Arthur Fibush.——The California Academy of Sciences recently sent supplies of top minnows (*Gambusia affinis*) to India, Philippine Islands and other places in the Far East, also to Papeete, Tahiti. The academy finds that these minnows multiply as rapidly under aquarium conditions in Golden Gate Park as they do in their native pools; the academy has therefore been able to supply from the Steinhart Aquarium colonies of minnows to many parts of the world.——Dr. Paul M. Ellwood has been appointed assistant epidemiologist of the state board of health. Dr. Ellwood, who is a graduate of Rush Medical College, Chicago, has just completed a course of training at the International Health Board Training Station, Andalusia, Ala.——The February 4 meeting of the Los Angeles County Medical Association was "military night"; the program was given over entirely to subjects pertaining to military medical organizations.——The Stanley P. Black Memorial Fund is endeavoring to provide for a lecture on medical and allied subjects two or three times a year by scientists of national reputation. The lectures will be similar in scope to the Lane lectures given by Stanford University Medical School. The Stanley P. Black Memorial Hall in the Professional Building, Pasadena, will be completed March 1, and Dr. Alfred S. Warthin, professor of pathology, University of Michigan Medical School, Ann Arbor, will inaugurate the series of lectures in March or April. The committee requests the support and interest of physicians in this project; checks may be mailed to the secretary, Dr. Leroy B. Sherry, 65 North Madison Avenue, Pasadena.

CONNECTICUT

Personal.—Dr. Thomas Eben Reeks, New Britain, superintendent, New Britain Hospital, has been elected president of the Connecticut Hospital Association.——Dr. Gertrude C. J. Kinsella is director of the city health department of New Britain.——Dr. Chester E. Haberlin has been appointed on the staff of the Emergency Hospital, Bridgeport.

Health Officer Appointed.—The new board of health of Meriden accepted the resignation of Dr. Joseph A. Cooke as health officer, January 25, and elected Dr. Howard De Forrest Lockwood as health officer, effective, March 1. Dr. Cooke's resignation had been "on the table" for about a year; Peter B. Brown, D.V.M., was appointed food and milk inspector by the board, and Dr. Michael J. Conroy was reappointed physician to the parochial schools.

Public Health Meeting.—Dr. Francis G. Blake, Yale University School of Medicine, New Haven, addressed the Connecticut Public Health Association at Bridgeport, February 11, on "Scarlet Fever," and Dr. Haven Emerson, Columbia University College of Physicians and Surgeons, New York, on "The Preventable Diseases of Adult Life." Dr. William H. Coon, health officer of Bridgeport, conducted a clinic on the diagnosis of scarlet fever.

DISTRICT OF COLUMBIA

Medical Society Honors Commissioner.—Hon. Frederick A. Fenning, commissioner of the District of Columbia, was unanimously elected an honorary member of the Medical Society of the District of Columbia, January 6. The bylaws provide for electing as honorary members any persons who, by reason of eminent contributions to medical or collateral science or of meritorious service to the medical profession, deserve recognition. Commissioner Fenning, a lawyer, has for years served the Medical Society of the District of Columbia as legal adviser and has always taken great interest in matters pertaining to public health and medicine.

FLORIDA

Smallpox at Tampa.—The smallpox outbreak at Tampa had amounted to 118 cases, January 29, of which forty-one were white persons; no deaths had resulted. Dr. Ernest C. Levy, city health officer, is reported to have said that about 41,000 persons had been vaccinated in the city since January 1, or slightly more than 50 per cent of the total population; he urges immediate vaccination of all persons not immune as the only way to check the disease permanently. "Even if we succeed in stamping out the disease now," he said, "we are certain to have new cases from time to time, because persons having smallpox will come to Tampa from other cities and expose those who have not been vaccinated."

Beauty Shops in Miami.—Among the fifty-two "beauty shops" in the city of Miami, only four were found conducted with sufficient regard to hygiene and decency to satisfy the department of public welfare. A place known as the Ar Bay Beauty Shop is said to have kept drinking water in the toilet room; the Cortez Beauty Shop, another institution which had many patrons had only one comb and brush; the towels in the Van de Grift Beauty Shop were simply dried and used again until they became too soiled to use; their sanitary cabinets were used for "catch alls"; a beauty shop at 290 Halycon Arcade had one powder puff for the use of everybody. The department of public welfare continues to say that combs, brushes and other "implements of the trade" were used time after time without cleansing or sterilization, and that most of these shops used common drinking cups; that part of their premises not supposed to be seen by patrons was littered and poorly kept.

GEORGIA

New State Health Director.—According to the Atlanta *Journal*, Dr. Millard E. Winchester, former health officer of Thomas County, has been appointed director of health for the state of Georgia. Dr. Winchester has been taking postgraduate work in Baltimore for several months, and is now observing health work in North Carolina and Virginia before taking up his new work in Atlanta.

Medical Arts Building.—A syndicate of physicians, dentists and business men of Atlanta have purchased a site on Peachtree Street, Atlanta, on which it is proposed to erect a $1,000,000, twelve story medical arts building for the use of physicians and dentists; about 75 per cent of the space in the building is said to have been rented already. It will provide business offices and laboratories, an auditorium, library and garage. Dr. Henry Clifford Sauls is president of the Medical Arts Building, Inc. Drs. Jay G. Williams and M. D. Huff, D.D.S., vice presidents; Dr. Grady E. Clay, secretary, and Dr. Hugh M. Lokey, treasurer.

ILLINOIS

Chiropractor Fined.—Miss M. E. Wagoner, a chiropractor at Newman, pleaded guilty, it is reported, to practicing without a license, January 16, and paid a fine of $100 and costs.

Society News.—Dr. Irving F. Stein, Chicago, addressed the January meeting of the Vermilion County Medical Society on "The Use of Radiography in Gynecology."——Dr. Henry B. Thomas has been elected president of the Chicago Orthopedic Club; Dr. Beveridge H. Moore, vice president, and Dr. Philip Lewin, secretary-treasurer.——Dr. John L. Tierney, St. Louis, addressed the Madison County Medical Society, February 5, at Edwardsville, on "Working Up a Case."

Surgeon General Appointed.—Dr. Harry D. Orr, Chicago, has been appointed surgeon general of the Illinois National Guard, to succeed the late Dr. George C. Amerson. Surgeon General Orr graduated from Northwestern Medical School, Chicago, in 1904, and has been associated with the Illinois National Guard since 1902. He was in command of the one hundred and eighth sanitary train, A. E. F., in France, which was attached to the third division; since the war, he has been in command of the medical regiment of the thirty-third division.

Chicago

Hospital News.—Dr. Karl L. Thorsgaard has been elected chief of staff at the American Hospital of Chicago; Dr. Gustav Kolischer, head of the department of urology and urologic surgery, and Dr. Thomas J. Williams, head of the department of ophthalmology and otolaryngology; Dr. Thomas A. Carter has been added to the attending staff.

William Beaumont Memorial Fund.—Dr. Frank Smithies has presented to the University of Illinois School of Medicine bonds in sufficient amount to yield annually, at a minimum and in perpetuity, the sum of $100, to be known as "The William Beaumont Memorial Fund," and the annual income therefrom, "The Annual Beaumont Memorial Award." Dr. Smithies' object is to stimulate research in the functioning of the digestive mechanism. The first award will be made in 1927 to the person, who, in the opinion of a faculty committee, submits or publishes during the year the most important work in the specified field.

Rules for Information Bureau.—The Chicago Medical Society has inaugurated a service for its members whereby physicians, who agree to accept calls through the Information Bureau, will be assigned to patients. The rules governing the information bureau were recommended by the council and approved by the branch societies. They are as follows:

> The City of Chicago is to be divided into fifty wards and each subdivided separately. An alphabetical list of the members of the society in each ward is to be kept by the operator of the information bureau. Physicians who agree to accept calls through the bureau must specify whether or not they will accept night calls and Sunday calls, and must agree to take cases sent to them and promptly respond to the calls coming from the information bureau. The operator of the bureau is to ask the following questions in accepting calls:
>
> Question 1. Ask whether the party already has a family physician; if they have, why wasn't he called?
>
> Question 2. Are the people who are calling for a physician able to pay? If they ask what it costs, the fee schedule of the Chicago Medical Society is to prevail.
>
> Question No. 3. The operator is to ask questions regarding sickness, nature of the case, etc., so that the physician responding to the call may have an idea what instruments to take with him, an idea as to what to be prepared for.
>
> Question 4. Name, address, sex, color and age of the patient to be recorded by the operator.
>
> In conclusion, when accepting the call, the operator will ask that no other physician be called so as to prevent the common occurrence of having several physicians respond to one call, which is especially true in emergency work.
>
> When sending a doctor on a case, the operator will pick the first name on the alphabetical list from the ward from which the cases comes. A notation will then be made and the next call from the same ward will go to the second doctor on the list, and so on down the line.

INDIANA

Hospital News.—The cornerstone for the new $385,000 surgical unit at the City Hospital, Indianapolis, was laid with appropriate ceremonies, recently.

Personal.—Dr. Walter C. McFadden, Shelbyville, has been appointed secretary of the city board of health, and Dr. Franklin E. Ray, a member.——Dr. Frederick W. Mayer, Indianapolis, has been appointed health commissioner of Marion County.——Dr. Samuel McGaughey has been appointed physician to the jail, Indianapolis, to succeed Dr. S. Merrill Tilson.——Drs. Joseph E. Moser, Frank F. Tourner and Rodney D. Smith are new members of the board of health of Bloomington.——Dr. Francis M. Williams has recently been elected mayor of Anderson.——Drs. Thomas Z. Ball and Lloyd H. Davis are new members of the board of health of Crawfordsville.——Drs. Clint C. Sourwine, Harry Elliott and Fred C. Dilley have been appointed members of the board of health of Brazil.——Dr. Earle S. Green has been appointed health commissioner of Muncie.——Dr. Walter W. Heald, West Lebanon, has been appointed county health officer, to succeed Dr. Sheldon S. DeLancey, Williamsport, resigned.——Dr. Davis L. Field has been reappointed city health officer of Jeffersonville.——Dr. Frederick E. Jackson has been appointed a member of the Indianapolis Board of Health to succeed Dr. Arthur E. Guedel.

MICHIGAN

Licenses Revoked.—The secretary of the board of registration in medicine reports that the following licenses were revoked, Oct. 14, 1925: Dr. James Leslie Passmore, Detroit, charged with violation of the antinarcotic act; Dr. Arden N. Howe, Flint, charged with illegally disposing of a dead body.

Society News.—Dr. Charles E. Elsberg, professor of neurologic surgery, Columbia University College of Physicians and Surgeons, New York, will address the Wayne County Medical Society, February 15, on symptoms of tumors of the central nervous system of interest to the general practitioner, illustrated by lantern slides.

University News.—The faculty of the University of Michigan Medical School, Ann Arbor, recently passed a memorial resolution expressing deep regret over the loss to American medicine in the death of Dr. Albion W. Hewlett, San Francisco; Dr. Hewlett was professor of medicine and director of the clinical laboratories at Michigan from 1908 to 1916.

MISSISSIPPI

New Mental Hospital.—The lower house of the state legislature passed a bill, January 29, after a long debate, authorizing the abandonment of the state insane hospital at Jacksonville, and the building of a new $2,500,000 institution on the Rankin County convict farm, 8 miles from Jacksonville, and to be paid for from proceeds of the sale of the present property. The construction of the new project would be supervised by a commission comprising the governor, the superintendent of the hospital, and three other members to be named by the governor. The bill has not yet passed the senate.

NEBRASKA

Personal.—Dr. John P. Lord has been elected president of the Omaha Surgical Club.——Dr. M. Alace M. Kani has been elected president of the Omaha Medical Women's Society, succeeding Dr. Mattie L. Arthur.

State Society Record.—The highest membership ever attained (1,209) by the Nebraska State Medical Association was that of last year, and although the dues have been raised, the present year bids fair to exceed the 1925 record.

Chiropractor Fined.—Mrs. Caroline Bray, a chiropractor of Falls City, was tried, January 16, on a charge of practicing medicine without a license, found guilty, it is reported, and fined $100 and costs.——The department of public welfare recently filed a complaint against Paul R. Parrish, Salem, charging him with dispensing drugs without a pharmacist's license; Parrish, it is reported, pleaded guilty and was fined $10 and costs.

License Revoked.—It is reported that the license of Dr. Ora M. Caldwell, Omaha, has been ordered revoked by the department of public welfare, following a hearing on a charge of "unprofessional conduct." Dr. Caldwell is said to have traveled about the state, advertising in the papers, and to have held out to patients that she can cure manifestly incurable diseases.

Physician Founds Mission.—Dr. Harry M. McClanahan, Omaha, formerly president of the Nebraska State Medical Association, sailed from San Francisco, January 2, for Cheng Mai, Siam, where he will establish a missionary medical clinic in memory of his deceased wife. Dr. McClanahan for years has been interested in the medical mission at Cheng Mai. The *Nebraska State Medical Journal* notes that Dr. McClanahan's new undertaking emphasizes the type of service he has rendered to the sick in his home country.

Society to Approve Tenants.—Representatives of the Dodge Building Company of Chicago, owners of the Medical Arts Building at Seventeenth and Dodge streets, Omaha, came to Omaha, January 19, to consult with the Douglas County Medical Society concerning tenants in the new Medical Arts Building, which will be ready for occupancy, May 1. It was agreed that no physicians would be admitted without the approval of the medical society. The new building is of the most modern and improved type.

NEW YORK

Personal.—Dr. Frank W. Shipman, health officer of Mount Vernon, was appointed health commissioner of that city for life, January 19, in succession to the late Dr. William H. Purdy.

Society News.—Dr. Victor C. Jacobson addressed the Medical Society of the County of Albany, January 12, on "Pathology of Coronary Arterial Disease." Dr. Lemuel W. Gorham on "Coronary Thrombosis or So-Called Acute Indigestion," and Dr. Nelson K. Fromm on "Differential Diagnosis of Infantile Paralysis."

Hospital News.—Two hundred radio "ear phones" were installed in the wards of Lebanon Hospital, New York, January 11, the gift of Mr. Sidney Schwab, a director of the hospital.——The Staten Island Hospital recently announced that Mr. David J. Tysen had given to that institution, $200,000 for the construction and equipment of a building in memory to his parents, to be known as the Tysen Memorial School for Nurses.

New York City

Dr. Golub Resigns.—Dr. J. J. Golub, medical director, Beth Moses Hospital, Brooklyn, has resigned, effective March 1, to accept a position as assistant director of Mount Sinai Hospital, New York. Dr. Golub graduated from Boston School of Medicine in 1915; was assistant surgeon, U. S. Public Health Service, for three years; was a member of the Medical Commission of the American Joint Distribution Committee, and served in Eastern Europe from 1921 to 1924.

Fund for Study of Pneumonia.—A gift of $10,000 a year to be used in the study of the prevention and cure of pneumonia has been made by Mr. Lucius N. Littauer to New York University, to be administered under the direction of Dr. William H. Park, director of the laboratories, New York Department of Health, and a member of the faculty of New York University. The gift has been designated as "The Lucius N. Littauer Fund for Prevention and Cure of Pneumonia." Mrs. Littauer died of pneumonia about two years ago.

Personal.—Dr. Charlton Wallace has been made attending orthopedic surgeon, with a full complementary staff, in the newly created division of orthopedic surgery at the Hospital for Ruptured and Crippled.——Dr. Henry C. Falk, New York, was elected Grand Consul of the Phi Delta Epsilon Medical Fraternity at the recent annual convention in Baltimore, and Dr. Henry B. Boley, 11 Weirfield Street, Brooklyn, Grand Scribe.——Dr. Robert Abrahams has recently been reappointed manager of the Manhattan State Hospital, Ward's Island, and president of the board of managers.——Dr. Zachary Sagal has been promoted to assistant chief of gastro-intestinal diseases at the Vanderbilt Clinic.——Dr. Thomas Archibald Malloch, who was recently appointed librarian of the Academy of Medicine, has returned from Europe, where he did research work in the Bodleian Library at Oxford, England.

Physicians' Home Has Option on Estate.—It was announced, January 28, that the Physicians' Home, Inc., has an option on a 300 acre estate at Ridgefield, Conn., as a site for a home for incapacitated and aged physicians. The estate can be purchased, says the New York *Times*, for $125,000, although it is said to have cost more than $1,000,000. Dr. Wendell C. Phillips, President Elect of the American Medical Association, who, among others, addressed the meeting at which the announcement was made, again gave assurance of the American Medical Association's support of this movement; he recommended that state units be organized to dispel the opinion that the project is an activity of the state of New York; Dr. Robert T. Morris, president of the Physicians' Home, Inc., said that if the estate in Connecticut is purchased, this unit would be used for disabled physicians in the Eastern states.

OHIO

Columbus Mortality Last Year.—The death rate for Columbus last year was 13.8 per thousand population, an increase of 0.7 over the death rate of 1924 (the death rate for the state for 1925 was 11.6), it is reported. The greatest increase was in deaths from influenza, pneumonia, heart disease, enteritis and traffic accidents; there was a decrease in deaths from diphtheria, cancer, nephritis and diabetes.

Hospital News.—The Common Pleas Court has appointed a building commission to act jointly with the county commissioners of Stark County in the construction of the new $750,000 county tuberculosis sanatorium, for which a bond issue was recently approved.——The opening of the new Belmont County Tuberculosis Hospital has been delayed on account of the lack of funds to equip the building.——Dr. Raymond W. Bradshaw is resident clinical director of the new Allen Hospital erected at Oberlin College, as the central unit in the Student and Community Health Service. Each student pays $10 a year for clinical and dispensary service and ten days free hospital care; he chooses and pays for his own physician.——Dr. Urban D. Seidel has been elected chief of staff for 1926 for the Children's Hospital, Akron, and Dr. Alexander S. McCormick, secretary.

Personal.—Samuel T. Pyper of the Dayton City Health Department was appointed, January 27, to a position on the board of health of Cincinnati.——Dr. Guy H. Swan has resigned as a member of the board of health of Bellefontaine.——Bradley M. Patten, Ph.D., associate professor of histology and embryology, Western Reserve School of Medicine, Cleveland, recently spent two months in Baltimore studying the collection of mammalian embryos at the Carnegie Embryological Institute.——Dr. Edward J. Schwartz, who resigned as epidemiologist of the state department of health some time ago to accept a public health position in Florida, has returned to Ohio to become health commissioner of Lake County.——Dr. J. Will Payne has been elected health commissioner of Lawrence County, Ironton, and will take up his new duties, June 1.——Dr. John N. Ellison, Portsmouth, has been elected president of the Hempstead Academy of Medicine, to succeed Dr. Harry A. Schirrman.——Dr. John Prather has returned to the Massillon State Hospital, Massillon, as assistant surgeon.——Dr. Robert C. Longfellow, who has been in Cairo, Egypt, for several months, will return to Toledo about April 27.

PENNSYLVANIA

Hospital News.—Dr. Leo W. Hornick, Johnstown, has been elected president of the staff of the Mercy Hospital for 1926, Dr. Clarence M. Harris, vice president, and Dr. Bernard J. McCloskey, secretary; a department of pediatrics was recently organized at the hospital.——The Meadville Spencer Hospital building has been opened, replacing the structure destroyed two years ago by fire.

Personal.—Dr. James D. Lewis has been appointed director of public health of Scranton.——Dr. Charles S. Abbott has been elected president of the board of health of Bristol.——Dr. Wilfred T. Grenfell, medical missionary, gave an address at Oil City, January 18, on "'Mid Snow and Ice in Labrador," under the auspices of the Teachers' Association.——Dr. George A. Reed, Erie, has been elected president of the Erie Anti-Tuberculosis Society.

Philadelphia

Personal.—Dr. Bowman C. Crowell, professor of pathology, Jefferson Medical College, has resigned and has been appointed associate director of the American College of Surgeons, Chicago.

Hospital News.—Employees in the auditing department of Gimbel Brothers' store gave 250 books and Mr. Richard Gimbel a bookcase, February 2, for the children's ward in Jefferson Hospital.——The Philadelphia Music League has been instrumental in installing 325 radios in the hospitals and various institutions in the city.

Society News.—Dr. Clyde Calvin Fox addressed the Philadelphia Laryngological Society, February 2, on "Pemphigus of the Mouth and Pharynx."——Dr. Guy L. Hunner, Baltimore, addressed the College of Physicians of Philadelphia, February 3, on "A New Abdominal Syndrome, Its Etiology, Pathology and Treatment."——Dr. Knud Faber, professor of medicine, University of Copenhagen, delivered the seventh Nathan Lewis Hatfield lecture of the College of Physicians, February 12, on "Etiology and Pathogenesis of Achylia Gastrica."

SOUTH CAROLINA

Hospital News.—The Sumner Hospital at Rockhill was destroyed by fire, January 25.

Personal.—Dr. Lee W. Milford, Anderson, has taken up his duties as college physician for Clemson College, succeeding Dr. George D. Heath, who held that position for several years.——Dr. R. Andral Bratton, York, has been appointed county physician.——Dr. Leon Banov, Charleston, county health officer, has taken over the duties of city health officer succeeding Dr. John Mercier Green in the latter capacity, and will henceforth direct both city and county health departments.

TEXAS

Health at El Paso.—Telegraphic returns from sixty-eight cities with a total population of twenty-nine million, for the week ending January 30, show, the department of commerce says, that the highest mortality rate (31.3) appears for El Paso. The death rate given for El Paso for the corresponding week last year was 21.4. The average mortality rate for this group of cities was 14.5, as against 14.2 for the corresponding week of last year.

Thirty Minutes in Jail.—The *Texas State Journal of Medicine* reports the sentencing of a chiropractor of Dallas, recently, who pleaded guilty to violation of the medical practice act, to a fine of $30 and thirty minutes in jail, and that of a negro "hoodoo doctor" to a fine of $50 and thirty minutes in jail, on a similar charge. The *Journal* also reports the names of various other Texas chiropractors against whom charges have recently been filed. The state medical association and the state board of medical examiners are making a fight to rid the state of unlicensed practitioners.

Courses in Rural Sanitation.—A new course in rural sanitation will be established by the Agricultural and Mechanical College for the next school term to include studies in sewage disposal for rural homes, safeguarding farm water supplies, malaria and hookworm control, sanitation in rural schools and the general relation of sanitation to health. This college also has at present a course in sanitary engineering and city management; other public health courses are being offered by Baylor College. Similar courses will soon be adopted in other leading colleges in the state to meet the increasing interest in public health work.

WASHINGTON

Personal.—Dr. Leon L. Goodnow, Aberdeen, has been appointed chief medical adviser to the department of labor and industries to succeed Dr. Walter Kelton, Seattle, resigned.——Dr. Ralph Hendricks has been reelected city health officer of Spokane; he has been serving the city in that capacity for six years.

Hospital News.—St. Luke's Hospital, Bellingham, has formally dedicated its new wing, which cost $100,000.——The Centralia General Hospital Association has awarded a contract for the construction of a three story, forty bed hospital to cost $60,000.——The Valley Hospital, Puyallup, formerly known as the Puyallup Clinic, is now a general hospital, managed on the open staff plan.

Malignant Smallpox.—The *Bulletin* of the King County Medical Society, Seattle, notes that four cases of "black" smallpox recently developed at Firlands, and that it was understood that all four of the patients died. The health department notified the King County Medical Society to be on the lookout for such cases, as two of them had been treated in the early stages of the disease for influenza.

Society News.—Dr. Edward S. Judd, Rochester, Minn., conducted clinics at the Providence Hospital, Seattle, January 15-16, under the auspices of the Seattle Surgical Society, and on the latter date was a dinner guest of the society.——Dr. E. Frank Chase, Seattle, has been elected president of the Puget Sound Academy of Ophthalmology and Oto-Laryngology; Drs. John A. Johnson, Tacoma, and Dr. Spencer S. Howe, Bellingham, vice presidents, and Dr. Morrill J. Morris, Seattle, secretary-treasurer.——Dr. William F. Wild, field representative of the American Society for the Control of Cancer, New York, addressed physicians and nurses in Seattle, February 6.

WISCONSIN

Personal.—Dr. Otto Fiedler, Sheboygan, has been reelected president to the state board of health; Dr. Joseph Dean, Madison, reelected vice president, and Dr. C. A. Harper, state health officer.

Dr. Warfield Appointed Director of Dispensary.—Dr. Louis M. Warfield, Milwaukee, has been appointed clinical director of the Milwaukee County Dispensary, to succeed Dr. John P. Koehler, who resigned about a year ago to become health commissioner of Milwaukee. Dr. Warfield formerly was on the faculty of the University of Michigan Medical School, Ann Arbor, and was clinical director at the Milwaukee County Hospital for many years.

GENERAL

English Medical Society on Tour.—The Cambridge (England) University Medical Society will visit America during August and September, leaving Liverpool for Montreal, August 13. The party will comprise about 200 physicians and students of medicine at Cambridge University. They will go to Toronto, Niagara, Washington, Baltimore, Philadelphia, New York, New Haven and Boston.

New Dermatologic Society.—The Baltimore-Washington Dermatological Section on invitation voted, January 21, to join the Boston, Philadelphia and New York Dermatological Society; the group then to be known as the Atlantic Dermatological Society. At the last Baltimore-Washington meeting, with Dr. Henry H. Hazen, Washington, presiding, many rare cases were presented. The next meeting will be in Baltimore, February 18.

National Board of Medical Examiners.—More candidates were examined by the National Board of Medical Examiners in 1925 than in any previous year, 573 having taken part I; 349, part II, and 217, part III. Examinations in parts I and II will be held, June 21-23 in class A medical schools throughout the country. There was also an examination in parts I and II, February 10-12. The board of medical examiners of the territory of Hawaii has voted to accept the certificate of the National Board of Medical Examiners for licensure.

Award of Prize.—Dayton C. Miller, D.Sc., professor of physics, Case School of Applied Science, Cleveland, was awarded the $1,000 prize of the American Association for the Advancement of Science at the meeting of that association, Kansas City, Dec. 29, 1925, for his address on "The Michelson-Morley Ether Drift Experiment," which was the presidential address before the American Physical Society. Dr. Miller has been the professor of physics at Case since 1893.——Liberty Hyde Bailey, Ithaca, N. Y., formerly director of the College of Agriculture, Cornell University, was elected president of the American Association for the Advancement of Science, and also president of the Botanical Society of America, at the recent meeting at Kansas City.

Annual Clinical Meeting.—Surgical clinics at the hospitals in Louisville, Ky., were held each day during the annual clinical meeting of the American Association for the Study of Goiter, February 1-3; among others, Dr. Emil Goetsch, Brooklyn, discussed "The Diagnosis and Treatment of Certain Obscure Cases of Chronic Hyperthyroidism" (lantern demonstration); Dr. John H. Musser, Jr., New Orleans, "Pulmonary Tuberculosis and Hyperthyroidism"; Dr. J. Howard Frick, Philadelphia, "Treatment of Goiter by Intravenous Therapy"; Dr. John J. Maloney, Cincinnati, "Ligneous Thyroiditis"; Dr. Marcus O. Shivers, Colorado Springs, Colo., "Thyroid Infections," and there was a symposium on goiter in which, among others, Dr. Curran Pope, Dr. Frank P. Strickler, Jr., Dr. Irvin Abell and Dr. William E. Gardner took part.

First American Health Congress.—This congress, which convenes in Atlantic City, May 17-22, will be the first occasion that those who are doing public health work in America will be able to view the work they have done as a whole. Under the auspices of the National Health Council, the participating organizations will cover every phase of public health. Among others, Sir Arthur Newsholme, prominent in public health work in England, and George E. Vincent, Ph.D., president of the Rockefeller Foundation, will address the opening session. Meeting at the same time in Atlantic City will be the three national nursing organizations and the American Child Health Association, and the Conference of State and Provincial Health Authorities of North America. Special railroad rates have been secured, and it is announced that at least 7,000 will be in attendance.

Change of Address.—The National Committee for the Prevention of Blindness has moved its headquarters to 370 Seventh Avenue, New York, in which building there are thirteen other health organizations, many of them members of the National Health Council. Dr. William H. Wilmer, director of the William Holland Wilmer Foundation, Johns Hopkins University, Baltimore, and Dr. William F. Snow, director of the American Social Hygiene Association, have been elected to the board of directors of the National Committee for the Prevention of Blindness, and Dr. Benjamin Franklin Royer, formerly chief medical inspector, Pennsylvania State Department of Health, has been appointed medical director of the committee; ten years ago the National Committee for the Prevention of Blindness comprised three persons; now it includes among its members and contributors more than 14,000 persons. Its work is supported entirely at present by volunteer public contributions.

Corn Sugar as Preservative.—An amendment to the federal Food and Drugs Act permitting the use of corn sugar as a preservative and for sweetening purposes is provided in a bill favorably reported to the Senate from the committee on manufactures. The purpose is, primarily, to increase the market for corn. The committee states that the present production of corn sugar has been largely developed within the last two years; that it is a supersugar, nearly 100 per cent pure; that as a preservative it has nearly 30 per cent average over cane or beet sugar; and that 25 pounds of sugar can be obtained from a bushel of corn. The amendment will overcome certain rulings which have designated cane sugar and beet sugar as sucrose, and corn sugar as dextrose. There is nothing in the Food and Drugs Act to prevent the use of corn sugar as a preservative or in canned goods; but, owing to the fact that it has been designated as dextrose, there has been doubt in the minds of manufacturers as to whether or not the product can be used in connection with the canning of food products unless it is named on the labels as dextrose.

Report of Commonwealth Fund.—The latest enterprise of the Commonwealth Fund is that of assisting rural communities in establishing hospitals; $85,000 for a small hospital at Murfreesboro, Tenn., was recently appropriated; plans are under consideration to provide for the construction of two rural hospitals each year. The Commonwealth Fund appropriated in the fiscal year ending Sept. 30, 1925, $241,000 for the child health program, which includes demonstrations at Fargo, N. D.; Athens, Ga.; Rutherford, Tenn., and Marion County, Ore. A branch of the child health program is organized in Austria, where there are 104 child health stations and other work in operation which involved the expenditure last year of $100,000. The fund granted $36,000 for psychiatric fellowships at the University of Pennsylvania School of Medicine, and $15,000 for the development of the psychiatric clinic at Columbia University College of Physicians and Surgeons, New York. Altogether, about $425,000 was appropriated in this field and that of child guidance and the prevention of delinquency, and the total expenditure for child welfare, which has been one of the chief interests of the fund, amounted to $847,000 last year. Miscellaneous appropriations by the Commonwealth Fund included, among others, $15,000 to the National Board of Medical Examiners, $6,000 to the New York University for research in scarlet fever immunization, and $15,000 to the American Society for the Control of Cancer and its educational campaign. This fund was established in 1918 by Mrs. Stephen V. Harkness, and its endowment amounts now to more than $38,000,000.

Declaration of Public Men and Scientists.—At a conference, February 1, Washington, D. C., of prominent public men and scientists on a special board of trustees of the National Research Endowment, the following declaration was made public:

> The Trustees of the National Research Endowment, recognizing that human progress depends in large degree on research in pure science, declare their conviction that:
>
> 1. The United States, which already occupies a leading position in industrial research, should rank with the most enlightened nations in the advancement of pure science.
>
> 2. It is wiser to make large expenditures for scientific research, thus advancing civilization, improving human welfare, conserving health, and saving countless useful lives, than to tolerate unnecessary suffering and then endeavor to alleviate it at still greater cost.
>
> 3. Research in all branches of the mathematical, physical and biologic sciences should be encouraged, because of the intellectual and spiritual value of adding to knowledge and because the greatest advances in science and in industry often result from apparently useless abstract discoveries.
>
> 4. Scientists exceptionally qualified to widen fundamental knowledge through research are of such value to the nation that every effort should be made to facilitate their work.
>
> 5. The overcrowding of educational institutions, and the consequent excessive demands of teaching and administration, have further reduced the limited opportunities for research previously enjoyed by the members of their faculties.
>
> 6. The funds now available for the support of research in pure science in the United States are far below what our population, education and material resources demand.
>
> 7. The National Academy of Sciences, created by congressional charter, the scientific adviser of the government, and composed of leading investigators in the closely interlocked and mutually dependent mathematical, physical and biologic sciences, is peculiarly qualified to evaluate the needs of pure science in America, to stimulate its progress, and to insure the widest use of funds provided for research.
>
> In view of these considerations, the trustees of the National Research Endowment, established by the National Academy of Sciences, propose immediately to secure adequate funds for the encouragement of research in pure science.

Among those in attendance at the organization meeting of this special board of trustees, which was recently appointed by the National Academy of Sciences, were Secretary Hoover, chairman; Albert A. Michelson, president, National Academy of Sciences; Elihu Root; Col. Edward M. House; Cameron Forbes; Owen D. Young; Dr. Simon Flexner; Dr. William H. Welch; Dr. Robert A. Millikan; Dr. John J. Carty, vice president, American Telephone and Telegraphic Company; Prof. A. B. Lamb, Harvard University; Prof. Oswald Veblen, Princeton University; Dr. Thomas H. Morgan, Columbia University, and Dr. George E. Hale, director of Mount Wilson Observatory, Pasadena, Calif.

LATIN AMERICA

Personal.—Dr. A. Ceballos, professor of surgical pathology at Buenos Aires, is visiting medical centers in the United States.——Dr. F. M. Fernández, director of the *Crónica Médico-Quirúrgica* of Havana, has been elected president of the Circulo Médico de Cuba.——Dr. Carlos Seidl, Rio de Janeiro, formerly president of the Academia Nacional de Medicina and of the public health service, and director of the *Revista Medico-Cirurgica* of Brazil, was recently tendered a banquet on the occasion of his decoration by the

French government as officer of the Légion d'honneur.——Dr. Juan B. Montoya, Medellin, has returned to resume his surgical practice after several years of service as secretary to the Colombian legation at Paris.——The *Semana Médica* states that Prof. J. G. Obregon y García of Santo Domingo has at last succeeded in founding a national identification bureau. He uses the Argentine (Vucetich) method, with the Lecha-Marzo for the identification records.——The committee in charge of the recent tribute to Prof. Miguel Couto, Rio de Janeiro, on the conclusion of his twenty-fifth year in the chair of clinical medicine, has used the surplus to found an annual prize for the best thesis offered by the last year medical students.——Dr. E. Pardo Figueroa, Lima, is at the head of a commission which includes the chief of the Asistencia Publica, organized to plan ways and means for prevention of the spread of venereal diseases in Peru.

FOREIGN

Smallpox in England.—A total of 960 cases of smallpox were reported in England from Dec. 12, 1925, to Jan. 9, 1926, almost three times the number reported for the same period last year, and the number reported the last week of this period (255) was the largest in any week for several years.

Laboratory Director Wanted in Egypt.—The city of Alexandria, Egypt, is seeking a director for the laboratory of the municipal health department, technical grade No. 11. The salary to begin with is 900 Egyptian pounds, the maximum 1,140. A medical diploma from a high grade school is required, and the candidate must have had experience in municipal health work. A public health diploma and experience in the bacteriology of tropical countries would be desirable. The candidates must not be over 45 years old, and applications must be received before March 10, 1926, addressed to the Président de la Commission municipale, Alexandria, Egypt.

Personal.—Dr. García del Real recently delivered a public address at the Madrid Community House on "What Humanity Owes to Physicians."——Professor Strasser has been appointed president and Dr. Freund secretary of the newly organized commission at Vienna to study rheumatism, to collect data in regard to cases and effects of various treatments. The movement is due to the initiative of Prof. K. F. Wenckebach, and it is proposed to hold regular "Rheumatism Evenings" for discussion.——The *Ugeskrift for Læger* relates that Prof. H. C. Gram, Copenhagen, has been decorated by the French government as officier de l'instruction publique and by the Serbian Red Cross.——Prof. F. Hübotter, of the chair of the history of medicine, Berlin, has gone to China to substitute for a year in place of Dr. Vogt in the Norwegian mission hospital in the Hunan province. He has made a special study of ancient Chinese medicine.——Dr. Harry Plotz of the staff of the Pasteur Institute, Paris, has been made chevalier of the Legion of Honor by the French government.——Among the ten foreign members elected last year by the Swedish Medical Association are Drs. Landsteiner, New York; Wimmer, Copenhagen; Uhlenhuth, Sachs, E. Friedberger, Eicken and Brühl of Germany; H. Burger, Amsterdam, and Ehrnrooth and Hagelstam, Helsingfors. Four prizes were awarded at the annual meeting: to Prof. R. Bárány for his radical operation on the middle ear (1923); to Drs. Liljestrand and Stenström for their research on the heart in exophthalmic goiter; to Drs. Kling, Davide and Liljenquist on epidemic encephalitis and to Dr. C. G. Sundberg, on the physiology of the circulation. Dr. Kling delivered the Lennander Lecture, his topic being "Epidemiology and Etiology of Epidemic Encephalitis." Dr. C. O. Olin was elected president of the association.——Professor Achard, general secretary of the Académie de médecine at Paris, is soon to leave for Japan on an official mission to visit the universities and scientific societies of Japan.——The Royal Institute of Public Health, London, has awarded the Harben gold medal this year to Baron S. Kitasato, chief of the Japanese Institute for infectious diseases.——Professor D'Amato, Rome, has founded an international society, "Pro Leprosis," for study of leprosy and its prophylaxis. The German members of the society are Professors Rille, Kolle and Schmieden, with Finger of Vienna.——Dr. Somen, 113 rue St. Martin, Paris, is organizing a medical chess club.——Dr. Jessen, Davos, spoke recently at the Madrid Medical school on "Early Diagnosis of Tuberculosis."——Dr. E. Luengo, Madrid, was tendered a banquet just before he left for the United States on a Rockefeller Foundation scholarship.——Miss Piera Locatelli, assistant at the pathology institute at Pavia, was awarded a prize by the Académie des sciences at Paris at the recent annual meeting.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Jan. 16, 1926.

The Cancer Virus

Mr. J. E. Barnard, F.R.S., in a lecture on "Ultramicroscopic Organisms," referred to his work during the last two or three years in association with Dr. W. E. Gye. Dr. Gye, he said, had succeeded in growing in artificial cultivation an organism which was certainly closely associated with malignant growth. Examination of these cultures had occupied his attention for a long time past. The problem connected with these small organisms, which were so difficult to define or to see or to know anything about in the microscope, would be in large part solved if there were a test by which one could see whether the small body was living or not living. He had devoted much time to trying to determine whether or not it was living, but up to the present, so far as a definite test went, no serious headway had been made, but a type of body not commonly seen in other conditions had apparently been identified in these active cultures. After many observations, the conclusion had been reached that these bodies were spherical, and on their outside edge little spots representing other spheres had been seen. These bodies behaved in a way essentially different from ordinary bacilli, while the method of reproduction was also different. It was observed that small spheres formed on the edge of a sphere and increased in size until they took definite form like the parent sphere. The small spheres were attached to the parent spheres by filaments.

Smallpox Outbreak in England

There is anxiety at the ministry of health about the spread of smallpox in the northeastern counties. In the seven days up to Dec. 26, 1925, 178 new cases were reported. Of these, 106 were in the county of Durham and thirty-nine in Derbyshire. In four other counties, notifications were made in the same week: Northumberland, nine; Nottingham, fourteen; Yorkshire: East Riding, five; West Riding, four. These cases are of a mild type. This is one of the difficulties of dealing with the disease, for people may have smallpox and be centers of contagion without knowing it. During the past quarter, 675 cases of smallpox have been reported in the county of Durham. Although the disease is of a mild type, hospitals in the affected areas in the northern portion of the county are full. The principal cause of the epidemic is said to be neglect of vaccination. Medical authorities at the ministry insist that there is no assurance of the mildness of the disease continuing and that at any time it may take the terrible confluent form.

Open Air and Health

At the annual meeting of the Science Masters' Association at the King's College for Women, Kensington, Prof. Leonard Hill lectured on open air and health. He said that in Germany since the war great progress had been made in the establishment of clubs for exercises and games in the sunshine and open air, and enormous strides had been made in the development of the young Germans. In England, many people in our large cities today had ill developed bodies and miserable physical health. Agricultural workers, although they had very low wages and, in many cases, bad housing conditions, yet, through exposure to the open air, had a much better mortality rate than had the industrial workers, in spite of the advantages of city life, with its great improvements in sanitation. Wherever the population was crowded the mortality rate was high. One of the secrets of open-air treatment was the breathing of cool air which contained little water vapor and, when warmed up to body temperature, could take up a great deal more. The stagnant hot air of crowded rooms was a disadvantage, because it lessened the whole of that evaporation. That was why open-air livers had far less catarrh and colds than other persons. Tuberculosis, scarlet fever and other infectious diseases were spread by the spraying out of these microbes in coughing, sneezing and speaking. The "danger zone" extended to a yard or two from the infected person. If doors and windows were opened, the danger of infection was much less. In crowded rooms, infection became great, for "carriers" of microbes were often present. But even one open window would make an enormous difference, and a fan ventilation had a similar effect, even if the window was shut. Dust was another cause of tuberculosis. It was essential to get dust out of the atmosphere, and that could be done by the use of proper ducts for flint and stone grinders, by water sprays to allay the dust, and by good ventilation. In regard to the clothing and ventilation, Professor Hill said that they should be such as to bring about cool heads and warm feet—the best conditions for the respiratory organs. In the House of Commons the air was driven up through the floor, and it cooled the feet of the members and their heads were in stagnant air. Those conditions were just right for giving members hot heads and cold feet. That was now being altered, and an attempt was being made to drive in air at the gallery level and blow it round the heads of the members.

British Medical Association and Tests for Drunkenness

The British Medical Association has appointed a special committee to investigate the difficult problem of formulating reliable tests for drunkenness. The committee includes four ex-officio officers of the association, four representatives of the Medico-Political Committee, four representatives of the Association of Metropolitan Police Surgeons, one provincial police surgeon (if possible a police surgeon in Liverpool or Birmingham), two stipendiary magistrates, and two physicians with special knowledge, Dr. Farquhar Buzzard and Sir William Willcox have been suggested, and also a medical representative of the services. The idea of forming this committee was put forward before the recent legislation in regard to drunkenness while driving a motor car was passed, but this will increase the importance of any conclusions to which the committee may come.

The Chair of Anthropology in the University of Sydney

A committee was appointed by the senate of the University of Sydney to consider the selection of a suitable occupant for the new chair of anthropology. It consisted of J. T. Wilson, professor of anatomy in the University of Cambridge; G. Elliot Smith, professor of anatomy in the University College, London, and Dr. A. C. Haddon, reader in ethnology, University of Cambridge. After considering all the possible candidates likely to be available for this important position, the selection committee recommended that the chair be offered to A. Radcliffe-Brown, M.A., professor of social anthropology in the University of Cape Town, South Africa. This recommendation was unanimously adopted by the senate. Professor Radcliffe-Brown has signified his acceptance. He has been engaged in anthropological work for the last sixteen years in the Andaman Islands, Australia and South Africa. The establishment of this chair has been made possible by the action of the commonwealth of Australia and the several state governments on the recommendations of the Australian National Research Council, the universities and the scientific bodies in the various states in providing sufficient funds. Prof. A. Radcliffe-Brown was awarded a studentship to make investigations on the Andaman islanders. As a result of this research he was elected a fellow of Trinity College, Cambridge. In 1909 he published an essay on the religion of the Andaman islanders. He was appointed to a studentship for field work in northwestern Australia in 1910, some of the important results of which were published. During the four years of his professorship in Cape Town, he has built up a vigorous department of anthropology and has stimulated widespread interest in the subject among university students.

The Distribution of Intelligence

Mr. J. F. Duff, lecturer on education, Armstrong College, Newcastle, gave an interesting lecture on "The Distribution of Intelligence" to the Eugenics Education Society. Comparing past and present, he was of opinion that a kind of practical intelligence developed more rapidly formerly than now. Referring to facts published in relation to schools in Northumberland, he said that the highest average intelligence quotient was found in the residential suburbs of Newcastle. In the coalfields, where the majority of the scholars were miners' children, the average was considerably lower. Fishing villages produced the lowest average quotient. In the pastoral districts the average was higher than in the coal fields, and some of the highest quotients in the county were found in these remote schools. It must not be supposed that intelligent miners were rare, but in many areas the unintelligent man, taking the line of least resistance, was certain to attach himself to the mines in some capacity. Speaking of the relation between social class and intelligence, Mr. Duff said that the children of brain workers showed an average intelligence of 106.6 and children of manual workers, 98.6. That meant that at the age of 12 the one class was a year ahead of the other in mental development. Much of the present work of inspection was done in the dark, and he suggested that in the absence of local knowledge an inspector might ask for a list of the parents' occupation. For dealing with the difficulty presented by the teaching of more gifted and less gifted children, the best compromise he knew was to form A and B classes in the same school.

ITALY

(From Our Regular Correspondent)

Dec. 15, 1925.

Treatment of Tetany by Means of a Parathyroid Graft

At the Accademia Medico-Fisica Fiorentina, Prof. Cesare Frugoni, the occupant of the chair of special medical pathology at the University of Florence, recently reported a case of tetany in a heredosyphilitic adult, whom he treated by means of a parathyroid graft inserted in the tunica vaginalis of the testis. The graft was prepared by Professor Comolli, assistant surgeon of the Istituto di clinica chirurgica, after the Voronoff method. The parathyroid was taken from a human subject who had just previously undergone a strumectomy performed by Clinical Professor Burci. The patient had suffered grave and repeated attacks of generalized tetany for several years. Various medical treatments had been in vain. Since June last, when the operation was performed, he has not had an attack. There remains only a slight Chvostek sign. This is the only case of a patient so treated in medical literature.

The New Pavilion of the Rickets Institute of Milan

On December 6, the crown prince laid the corner stone of the new Humbert of Savoy pavilion of the Instituto di Rachitici of Milan. The plan for the institution began to take shape in 1874, owing to the activities of Gaetano Pini. At present, the institute consists of nine large pavilions, in addition to the one now under construction. In 1924 the number of charity cases treated in the outpatient orthopedic department reached

2,687. The new pavilion will allow the admission of more crippled, maimed and paralytic children, will facilitate reeducation, will aid in treatment of war cripples, will establish a new department for the treatment of children affected with ostearticular tuberculosis and, finally, will create a section for rachitic infants.

Military Medical School

The Military Sanitary School in Florence was reopened and the thirty-eighth academic year begun, Dec. 3, 1925. Colonel Grixoni, M.D., director of the school, reviewed its work. The school was founded in 1883 for the purpose of providing additional medical officers for the army medical corps. It was necessary that young graduates in medicine and surgery should receive specialized training for the function of military physician or surgeon. Later, it was thought desirable also that the medical officers in the active permanent service attend the school. The speaker recalled that the school furnished for the Great War a medical corps that always proved equal to its tasks.

After the war, the school resumed all its functions, being provided with an excellent corps of instructors and aided also by the professors of the local university. The war suggested new and complementary courses in chemistry, toxicology, commercial products, chemical warfare and medical parasitology. To this has been added the psychophysiologic center for aeronautics. In a few months, there will be in operation a room the barometric pressure and temperature of which can be regulated to reproduce the conditions in which aviators must often operate. The medical officers attached to the psychophysiologic center have made important researches on the physiology and pathology of man while in flight. The institute plans this year for the first time a course in colonial hygiene and pathology, for young medical officers who go to our African possessions. With the opening of the next school year, there will be closer collaboration between the Scuola di sanità militare and the neighboring military hospital. Connected with the school is also the Biblioteca medica della guerra (war medical library).

Colonel Grixoni paid his respects to the memory of three members of the corps of instructors who died in the past year: Prof. Guido Banti, Professor Nieddu, M.D., and Colonel Villa Santa, M.D. General Calegari, M.D., director general of the army medical corps, delivered a short address.

Society of Experimental Biology

The Society of Experimental Biology was recently founded at Pavia, with Senator Giulio Fano, professor of physiology at the University of Rome as president. All Italian devotees of experimental biologic subjects are eligible to membership. The purpose of the society is to promote research in biology. Its headquarters will be in the city where its president resides. In localities in which at least ten members reside subchapters will be created. The organ of the new society is the *Bollettino della società di biologia sperimentale,* the president of the society being ex officio the managing editor. The bulletin will publish the proceedings of the regional and the plenary meetings, and the summaries of the scientific communications, the general reviews and the discussions pertaining thereto.

Antivenereal Prophylaxis in the Army in 1924

The war department publishes the statistics pertaining to antivenereal prophylaxis in the army for the year 1924, as compiled by Colonel De Berardinis, M.D., chief of the bureau of statistics of the army medical corps. During 1924, 71,614 army men made use of antivenereal prophylaxis, as compared with 58,875 in 1923, and with 19,735 during the second half of 1922. The increase is believed to be due to the campaign of instruction that has been carried on, to the creation of new prophylaxis rooms, and to the confidence that has gradually been awakened among the soldiers with regard to the efficacy of prophylaxis.

The percentage of infections developing among the men using prophylaxis varied from 0.34 in the army corps of Milan to 1.44 in the army corps of Bari. The marked difference is attributed to the greater care and accuracy with which the prophylactic measures were carried out in certain branches of the service.

During 1924, there were reported to the war department 5,527 new cases of venereal disease, which included 490 men who had received prophylactic treatment.

The number of patients who waited three hours or more post coitum before taking prophylactic treatment was about 70 per cent in the second half of 1922. This was reduced to 58.2 per cent in 1923, and to 48 per cent in 1924. These figures indicate that the men apparently became convinced that the more promptly it was carried out, the more certain the protection would be.

The number of syphilitic infections in 1924 was reduced to a little more than two cases out of 100 venereal infections.

In view of the difference between the number of infections among those who employed prophylaxis during the first three hours post coitum and the number of infections occurring in those who postponed prophylaxis until after the three-hour interval, Colonel De Berardinis recommends that every tolerated brothel be required to provide a prophylaxis room of the type already established in the garrisons.

Professor Sangiorgi, director of the Hygienic Institute at the University of Parma, recommends that the government provide means of prophylaxis for the civilian population. The state might use, for that purpose, the physician of the port and the physician of the province. The physician of the port would exercise surveillance over sailors from mercantile vessels. The physician of the province would have supervision over inland cities. Prophylaxis in sea ports is being carried out with the best results in Norway, and Professor Sangiorgi thinks that a world-wide system should be worked out based on international agreement.

Researches on Insulin

Eight prizes consisting of money and gold medals have been established for the current year, four for the best experimental researches on insulin and four for the best articles on clinical cases of diabetes treated with insulin. For the first four prizes the following are eligible to compete: assistant physicians holding positions in Italian universities in physiology, pharmacology, general and special pathology, clinical obstetrics and pediatrics; candidates for graduation in medicine who select experimental researches in insulin as subjects for theses to be presented in the aforesaid institutes, and physicians of the Maggiore Ospedale in Milan. For the other four prizes, all practicing physicians in Italy whose names are recorded in the medical register for 1925 are eligible to compete.

Medical Studies at the New University of Bari

The University of Bari is only one year old, but the government intends that it shall become an important center of learning capable of attracting students from the opposite shore of the Adriatic. A number of university professors and other patrons of medicine will establish an association in Bari, which will promote the study of medicine and the allied sciences. The provisional committee plans that the society constitute a forum open not only to physicians but also to biologists, physicists and chemists of the whole region of Apulia. It is planned to make it an academy after the type of the Accademia medica di Roma and the Accademia dei Lincei.

JAPAN

(From Our Regular Correspondent)

Nov. 7, 1925.

The International Conference of Medical Officers

The representatives to the Tropical Medicine Conference had scarcely departed when we received the delegates to the International Conference on the interchange of Medical Officers of Health. The meeting was held, November 19, in Tokyo under the auspices of the League of Nations. Fifteen foreign medical officers were present, including Dr. Ludwik Rajchman, director of the health section, and Dr. T. Madsen, president of the health committee of the League of Nations. On the second day they started on their inspection trip throughout Japan. In the meeting that followed the tour, the visitors asked why the chief of the Japanese health department is not a medical expert, and whether special institutions are maintained for the training of officers. To the first of these questions the Japanese authorities answered that they would appoint a medical expert as head of the health department if occasion should arise to make it necessary; to the second, that although no special training schools are maintained, some of the private laboratories give the necessary training for officers. The foreign representatives found that in the past Japan had used many valuable measures in the prevention of epidemics, but little concerning them has been reported abroad. A few of these measures, for example the precaution against cholera, will be reported abroad, the League of Nations paying the expense. The equipment of the national dietetic laboratory in Tokyo was admired by some foreign representatives, who are said to have proposed sending their own experts to study in that laboratory. Reports concerning this laboratory will be sent abroad in the near uture.

The Oriental Red Cross Conference

The third session of the Oriental Red Cross Conference, the second one being postponed sine die, will be held in Tokyo for a week on and after November 15, 1926. On the same occasion the Japan Red Cross Society will celebrate its semicentennial, inviting many foreigners concerned in Red Cross work.

Cholera and Trachoma Cases

According to the report of the health department of home affairs, the number of cholera cases this year amounts to 638, including twenty-eight suspected cases. Bacillus carriers number 220. Of 6,782,006 persons examined, trachoma is reported in 779,157, including 144,086 suspected cases. Severe cases number 80,577, and mild ones, 554,494. The percentage is 11.49.

Fake Diplomas Sold

Recently, certain physicians have declared that they were granted medical degrees from a University of Trinity College, Illinois, U. S. A., on submission of theses, without having attended in person a course of study in that university. The local government investigated the matter and reported that a Chicago firm sold at a good price diplomas in liberal arts, law and medicine to Japanese, Indians and Chinese issued by the University of Trinity College and the Lincoln-Jefferson University of Chicago, and of the American University of Los Angeles. It is reported that diplomas were purchased also from the National University of Science of Chicago. The authorities have warned the recipients of these degrees.

The Doai Memorial Hospitals

After the great earthquake in 1923, the American Red Cross Society quickly raised money by popular subscription for the medical relief fund. For this the Japanese cannot be too thankful. One half of the sum was spent for medical supplies, which were soon sent to the hurriedly constructed hospitals in the devastated districts. The rest of the contribution was sent to the Japanese government some time ago and the decision was made to use it in building a hospital in memory of the Americans' good will. The institution will be organized along American lines. Construction is expected to be finished in the spring of 1927. Nurses are already being trained in the main hospital of the Japan Red Cross Society. We believe that this work will do much toward preserving friendly relations between the United States and Japan.

BELGIUM

(From Our Regular Correspondent)

Jan. 1, 1926.

Alastrim, Smallpox and Chickenpox

Dr. Van Borckel, chief inspector of public health, has addressed to the international bureau of public health a communication on twelve cases of a disease observed in Belgium, all of which presented the clinical aspects of alastrim, or amaas. To make the diagnosis certain, various tests were made in each case: (1) the vaccination test; (2) hematologic tests; (3) the Paul test; (4) the search for Guarnieri corpuscles, and (5) deviation of complement. This group of tests proved that the cases that resembled alastrim did not constitute a specific disease. Varicella may take on the forms of alastrim as well as smallpox.

Anemia Resulting from Radium Therapy

In the course of a discussion on the value of radium therapy in cancer of the uterus, some facts were brought out with reference to the cell destruction that may result from radium treatment. Henrotay referred to a case that resulted fatally. Cahen reported that in 400 cases of cancer of the cervix of the uterus he had not observed a single instance in which anemia from radium treatment had ended in death. However, persons who are constantly exposed to radiation develop obscure forms of anemia. Among the sequels of irradiation is intoxication due to the fact that the radium has liberated products arising from the breakdown of cells.

Heliotherapy in Pulmonary Tuberculosis

At the International Congress of Medical Climatology held in Brussels, Dr. Hervé gave an account of the results from heliotherapy in the treatment of 2,000 patients. The author stated that, with reservations, 75 per cent of tuberculous persons can be subjected to heliotherapy without harm. The sun does not cause congestion or hemoptysis. These statements hold for both mountain and plain. Furthermore, results secured with heliotherapy in pneumothorax have confirmed them, for if there are any patients in whom congestion of the lungs is to be feared, it would be pneumothorax patients, who have only one lung in use and that functioning with superactivity. The author mentioned several classes of patients who may benefit from heliotherapy: pneumothorax patients who, already improved by a pulmonary compression more or less complete, still retain foci insufficiently compressed, or those who, in spite of their compression, remain infected; patients who have passed the acute period of pleurisy; patients with slowly developing bronchitis or even those with ulcers, provided those in the acute stage are excluded, and, finally, those with infected pleuras who are prone to develop purulent pleurisy during pneumothorax treatment.

Rat Extermination and Disinfection

Before the Association des médecins hygiènistes, Dr. Sillevaerts, director of the hygienic institute of the army, described recently the various modern methods of rat extermination and disinfection. Sulphur vapors, carbon monoxide and hydrocyanic acid are the agents most frequently employed and which give the best results. Hydrocyanic acid is the only efficacious method for destroying the parasites of railway coaches. Sulphur methods ruin the upholstered seats of first and second class coaches.

The Hospital Ship on the Congo

A widespread movement is on foot in Belgium looking toward better health facilities on the Congo. Ex-Governor Lippens of the Congo region, aided by Mrs. Lippens, is planning the establishment on the Congo of a hospital ship, which, owing to its mobility, will render great service to the inhabitants. More than a million francs has already been subscribed for the purpose.

Treatment of Vulvar Epitheliomas

Before the Société belge de chirurgie, Delporte and Cahen referred recently to the usually bad outcome in cases of epithelioma of the vulva. They cited a first series of seven cases treated by radium therapy. The results were inadequate, only two of the patients being cured. In a second series of five cases they applied intensive roentgenotherapy to the glandular regions, followed by removal of glands twelve days later. At the same time, they applied to the vulvar tumor a large number of small radium needles, and a few weeks later vulvectomy was performed. By this new technic they obtained four cures; there was one recurrence.

Spinal Anesthesia

It looks as if a formula for spinal anesthesia that will unite the divergent opinions of surgeons will soon be forthcoming. A long discussion in the Société belge de chirurgie has ended in the adoption of an almost unanimous conclusion. The majority of the authors seem to be in accord in recommending low rachianesthesia, but there is a diversity of opinion as to the value of high rachianesthesia.

Death of Prof. Paul Héger

Prof. Paul Héger, former president of the University of Brussels, was recently killed in an automobile accident. He had given up his duties as professor of physiology only a few years ago. Scarcely a year ago he had resigned his post as permanent member and chairman of the administrative council of the university. At the time of his retirement, he had been appointed honorary president of the council.

Héger may be regarded as the creator of the chair of physiology at the University of Brussels. His activity was displayed mainly through his researches on leukocytosis and inflammation; studies on the absorption of alkaloids by the liver, the lungs and the muscles, and in his numerous writings on the metabolic activity of the nervous system. Héger was an excellent laboratory director. He grouped about him a large number of collaborators, and in the school that he founded he remained the uncontested head even after he resigned from his professorship.

The Société Belge de Chirurgie

The new president of the Société belge de chirurgie is Colonel Derache, M.D., of the army medical corps and chief of the surgical service of the Military Hospital of Brussels. The election of Colonel Derache pays homage to a man who, during the war, was one of the leading organizers of hospitals on the Belgian front, and who is also one of the eminent surgeons of the country.

Exhibit of Works of Art by Physicians

The idea of a salon of art for physicians, launched at the last medical conference of Brussels, is making headway. The medical society of Antwerp organized, this winter, an interesting exhibit of works of art, including music, belles-lettres and painting, all of which were the productions of medical men. The exhibit was a success. Dr. Lambotte, one of the originators of osteosynthesis, exhibited a violin that was entirely the work of his hands.

BERLIN

(From Our Regular Correspondent)

Dec. 26, 1925.

Problems of Puberty

Before the pediatric section of the Berliner Verein für innere Medizin und Kinderheilkunde, E. Spranger, professor of philosophy, and author of a book on the psychology of adolescence, delivered an address on the evolution of puberty. He treated from the psychologic side a theme that, at first sight, appeared to be chiefly physiologic. Spranger believes that the psychic associations that influence the mind are of sensuous origin. Such a conception is based on two suppositions: First, the psyche has a definite structure in which all associations are sensuous, and, secondly, development of this structure is possible and must be assumed. The first supposition leads to the conclusion that every psychic representation must be evaluated with reference to the psyche as a whole, and, furthermore, is connected with the external world and constitutes an integral and yet overlapping part of a greater, all-comprehensive world soul structure. Regarded from this angle, the manifestations of puberty are one thing in rural communities and quite a different thing in urban centers; one thing among the proletariat and an entirely different thing among the classes better situated socially. The second supposition makes it necessary to study every stage in individual psychic development, and forces the assumption that the psychic evolution of the individual has a generic significance with reference to the world soul structure.

Since Spranger does not take physiologic facts as his point of departure but rather the mode in which those facts are intertwined with the imagination, he does not place the birth of sexual desires in the foreground, as is commonly done. On the contrary, the transition from the soul of the child to the psyche of the juvenile lies in the awakening of a new ego, or the opening up of a new inner world of consciousness. With this awakening is connected the newly developing relationships to the external world. Cultivation of the habit of introspection is necessary for the psychic awakening of the juvenile. At times, through the natural endeavor to become acquainted with himself through introspection and meditation, the juvenile becomes reticent or taciturn. Symptoms of this stage are: keeping a diary, writing poetry, increased interest in letter writing, and a greater tendency to form strong personal friendships. This new process in development may be disturbed by the withholding of affection and a lack of understanding of the problem.

A second point in the development of the juvenile is the greater tendency to identify himself with the culture and civilization about him. Whereas the child accepts everything about him as a matter of fact, the juvenile begins to form opinions and to assume more and more definite attitudes toward current beliefs and racial problems. The process of forming a body of original opinions on current issues is a difficult one. and gives rise to frequent misunderstandings. In the acquisition of knowledge or in the growth of individual opinions the imagination of the juvenile plays a big part. The juvenile lives in a world all his own, situated midway between the fairy kingdom of the child and the world of realism. The poetical productions of the juvenile are the result of a desire for self-expression; hence the choice of a material that offers the least resistance to his advances. Therefore, the writing of poetry by juveniles is a physiologic process and does not offer the slightest proof of a genuine poetic gift.

The third point of development is the working out of his own life bent. In this process, there are periodic vacillations, some of shorter and some of longer duration, the idealist quickly changing to a materialist, or vice versa, and the enthusiastic musician of today changing on the morrow to an equally enthusiastic bicyclist. This is a process of selection, or a survival of the fittest. The juvenile tries to find himself by experimenting with all sorts of situations; hence, too, the frequent desire to become an actor, as an expression of his diffidence about choosing a definite calling. Often such unfulfilled desires of puberty remain fixed in the mind throughout life, and occasionally they break forth afresh, with all their violence, along in the forties. Perhaps one might deduce from Spranger's statements that if a person eventually becomes an artist, it is because the structure of the psyche at puberty persisted in later years.

With reference to love between the sexes, Spranger distinguishes (though he admits that all definitions are inadequate) between sexual impulse and erotic sentiment. The latter is an esthetic form of love which is first kindled by the external beauty of the beloved object and which conceives that object as the embodiment of all human virtues. Sexual impulse and erotic sentiment are essentially of the same origin, but, in the normal development of puberty, the two fields are often differentiated, so that the juvenile does not always experience a sexual impulse, in the narrower sense, and, at the same time, an erotic sentiment toward the object of his affections.

Sexual feeling intrudes on the horizon of the juvenile as something new and weird, sometimes manifesting itself as a thirst for knowledge (poring over the pages of the encyclopedia) and sometimes as sexual desire. It is well to explain to juveniles sexual problems, as early as possible. Possibly the best form is in answer to questions that are apparently disturbing them.

Almost as strong as the sexual instinct is the impulse to achieve recognition and to become established, which leads to the so-called social crisis of puberty. There develops either a materialistic ambition to become famous, or—especially in our own times—the desire to create a world by, of and for juveniles, apart from the rest of the world, the so-called juvenile movement, or, again, one renounces the restraints of modern society, hoping to win laurels in that manner. The bashfulness of juveniles is often due to exaggerated self-consciousness, whereas boldness or impudence may be assumed to cover up inner embarrassment. Besides the desire for self-assertion—to be somebody—there is a strong need of affection. The longing to be understood personally is due to a passionate hunger for affection, and when misunderstandings arise the desire develops that one's friends and loved ones shall suffer, too. The juvenile's need of being understood is so great that any one he understands is in a position to win his affection, and any one that the juvenile does not understand is mercilessly rejected, whether it be parents, teachers or physicians. In closing, Spranger stated that he was not inclined to assume anything pathologic in juveniles unless he failed to explain it from the standpoint of sense appeal.

The second speaker of the evening, Dr. Aron of Breslau, viewed puberty as a bodily manifestation. He, too, developed the idea that the main factor in puberty was not the evolution of the sexual processes leading up to sexual maturity, which, from the gonads as their point of departure (whether from the interstitial cells or from others) bring about the secondary sex characters. On the contrary, he explained puberty as an endosecretory cycle. The gonads affect the sexual function and arrest the growth of the long bones.

In certain pathologic conditions (tumors of the suprarenal cortex) abnormalities of growth are observed, and in animal experimentations it has proved possible to effect at will a delay but not a premature onset of puberty. However, it has been observed that puberty begins earlier in urban centers than among the rural population, and earlier among the wealthy classes than among the less well-to-do. Pfaundler, the pediatrician (Munich), states that, the more slowly and the less noticeably puberty develops, the more natural it is. In fact, the accentuated and sudden onset of puberty, frequently observed among the educated classes in the cities, may be a mild form of pubertas praecox (premature or pathologic puberty). When the question is raised as to the cause of premature puberty, it is natural to think of hereditary influences. On the other hand, external factors, such as diet or cerebral irritation resulting from early mental overwork, have been put forward as the inciting cause. Dr. Aron thinks the principal reason is the lack of physical exercise among city children. Now that sport activities are being more widely introduced in our cities, the coming years will show whether increased physical exercise will retard the onset of puberty.

The City Physicians of Berlin

In addition to the main bureau of health (*Hauptgesundheitsamt*) in Berlin, there are twenty district bureaus. In three of the districts (Charlottenburg, Schöneberg and Neukölln) a physician attached to the health bureau serves as a salaried city councilman and director of the health service. In the other seventeen districts the administration of the health service is in the hands of a medical communal officer from the main bureau, usually elected for life and bearing the title of *Stadtarzt*, or city physician. His superior officer is the burgomaster of the district. The city physician is not permitted to treat private patients.

To the health administration of the districts belong, in addition to the various hospitals, the bathing and disinfection establishments; welfare centers for expectant mothers, puerperants, infants and young children; the school health service, including the transportation service; welfare work among the tuberculous, venereal patients, psychopaths, neurotics, alcoholics and cripples.

The city physicians serve also as administrators and medical directors in various branches of other communal administrations. In many of the welfare departments they attend to all the cases of sickness. In the larger administrative districts, from fifteen to twenty welfare physicians are engaged; these rank as district physicians. In many districts the medical care is organized on the basis of free choice of physician. A considerable number of specialists also serve in the welfare departments. The city physicians have a general oversight of the welfare medical service, and, especially, they consider requests from the welfare bureaus for spa treatment, hospitalization, orthopedic apparatus, artificial teeth and the like. Similar administrative work is performed by the city physicians in the caretaking centers for the war-injured, war orphans and other persons wholly or partially left destitute by the war, together with the unemployed. The city physicians cooperate with the housing bureaus in the distribution and care of dwellings, especially in connection with the crusade against tuberculosis and infant mortality. City physicians also are concerned in the control of epidemics, the supervision of midwives, the hygienic aspects of sports, instruction of the masses in hygiene, boarded-out children, wards, juvenile court aid, and school feeding and public tables. Also a large number of municipal orphan asylums, children's homes, kindergartens and day nurseries are under the supervision of the city physicians.

In many of the smaller outlying districts of the city, the city physicians serve at the same time as school and welfare physicians; often also as confidential physicians for the examination of clerks or secretaries in the district bureaus as to their health and condition for service, or as to their need of a vacation. The city physician, by virtue of his professional training in medicine and hygiene, is thus administrative technician, social hygienist, medical statistician and social politician.

Marriages

Julian Griffin Ely, New Bedford, Mass., to Miss May Genevieve Richardson of Millis, Nov. 6, 1925.

Jose Guillermo Lewis to Miss Sara Chiari, both of Panama, Republic of Panama, February 3.

Morris H. Newton, Little Falls, N. Y., to Miss Carolyn Race of Herkimer, Dec. 26, 1925.

Randolph L. Anderson, Boston, to Miss Gretchen Cutter of Concord, Nov. 18, 1925.

Jerome Zeigler to Miss Ellen Arvin, both of Cincinnati, January 1.

Deaths

Archibald Cunningham Harrison ⊕ Baltimore; University of Maryland School of Medicine, 1887; professor of surgery at his alma mater and formerly professor of anatomy and surgery at the College of Physicians and Surgeons, Baltimore; past president of the Medical and Chirurgical Faculty of Maryland; on the staffs of the Mercy, St. Joseph's, and the Baltimore Eye, Ear and Throat hospitals, the Church Home and Infirmary, and Hospital for Women of Maryland; served in the M. C., U. S. Army, during the World War; aged 61; died, January 17, of heart disease.

Samuel Jason Mixter ⊕ Hardwick, Mass.; Medical School of Harvard University, Boston, 1879; member of the American Surgical Association and the Southern Surgical Association; formerly lecturer on surgery at his alma mater; at one time on the staffs of the Massachusetts General Hospital and the Massachusetts Charitable Eye and Ear Infirmary, Boston; served during the World War; aged 70; died in January, at Grand Junction, Tenn., of pneumonia.

William Tunis Reynolds, Kansas City, Mo.; Barnes Medical College, St. Louis, 1895; member of the Western Surgical Association; on the staff of St. Mary's Hospital; at various times on the staffs of the Research Hospital, St. Joseph's Hospital and the old South Side Hospital; aged 55; died, January 11, of complications following an appendectomy.

Edward Garrett Rhoads ⊕ New Hope, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1885; formerly a minister; at one time on the staff of the Germantown Hospital, Philadelphia; aged 62; died, January 24, at Fairhope, Ala., of heart disease.

John Bayley Jones ⊕ Philadelphia; Jefferson Medical College of Philadelphia, 1903; formerly on the staff of the New Jersey State Village for Epileptics and Feebleminded, Skillman, N. J.; aged 48; died, January 14, at the Jefferson Hospital, of myocarditis.

William A. McHenry, Rogers, Ark.; St. Louis College of Physicians and Surgeons, 1906; member of the Arkansas Medical Society; also a druggist; aged 66; died, January 14, at St. John's Hospital, Springfield, Mo., following an appendectomy.

Albion G. Young ⊕ Augusta, Maine; Medical School of Maine, Portland, 1867; for forty years connected with the state board of health; director and epidemiologist of communicable diseases; aged 82; died, January 15, of angina pectoris.

James J. Rucker, Overall, Tenn.; University of Pennsylvania School of Medicine, Philadelphia, 1869; member of the Tennessee State Medical Association; formerly member of the state legislature; aged 79; died, January 9, at Nashville.

Virginia Helm Richardson Milner, San Francisco; Johns Hopkins University Medical Department, Baltimore, 1924; intern, Hospital for Children and Training School for Nurses, where she died, January 15, of meningitis, aged 26.

Edwin E. Bird, Buncombe, Ill.; St. Louis College of Physicians and Surgeons, 1903; member of the Illinois State Medical Society; aged 46; died, Nov. 25, 1925, at St. John's Hospital, St. Louis, following an appendectomy.

Uriah Herbert Debendarfer ⊕ Mannington, W. Va.; University of Pittsburgh School of Medicine, 1894; aged 57; died, January 10, of injuries received when the automobile in which he was driving was struck by a train.

Joseph W. Darby, Baton Rouge, La.; University of the South Medical Department, Sewanee, 1906; member of the Louisiana State Medical Society; aged 51; died in January, of a self-inflicted bullet wound.

James A. Moss, Memphis, Tenn.; University of Pennsylvania School of Medicine, Philadelphia, 1871; formerly on the staff of the Presbyterian Hospital; aged 77; died, January 18, at the Baptist Hospital.

Edward Joseph Degman, Meriden, Conn.; Jefferson Medical College of Philadelphia, 1913; member of the Connecticut State Medical Society; on the staff of the Meriden Hospital; aged 40; died, January 17.

Byron M. Peters, Jenkintown, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1886; member of the Medical Society of the State of Pennsylvania; aged 65; died, Dec. 20, 1925.

Wendell Phillips Wingender, Camden, N. J.; Jefferson Medical College of Philadelphia, 1893; formerly member of the school board and coroner; aged 66; died, January 11, of pneumonia.

James W. Coffman, Black Rock, Ark.; University of Louisville School of Medicine, 1871; Jefferson Medical College of Philadelphia, 1883; aged 78; died in January, of pneumonia.

Abraham V. Ponder, Sulphur, Okla.; American Medical College, St. Louis, 1876; member of the Oklahoma State Medical Association; aged 76; died, January 17, of paralysis.

William Samuel Long ⊕ Reading, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1913; aged 38; died, January 17, at the Reading Hospital, of pneumonia.

Gabrielle Debains Gardner, New York; University of Paris, France, 1903; aged 51; died, January 28, at the Peekskill Hospital, of injuries received in an automobile accident.

Frederick Jones, Jr., Camden, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1907; aged 41; died, January 15, of a malignant tumor of the cervical glands.

Thomas Clay Edwards ⊕ Salinas, Calif.; St. Louis Medical College, 1883; on the staffs of the Monterey County, and Salinas Valley hospitals; aged 65; died, Dec. 27, 1925.

John H. Carson, Los Angeles; McGill University Faculty of Medicine, Montreal, Que., Canada, 1881; formerly a practitioner in Minnesota; aged 65; died, Nov. 23, 1925.

Erwin T. Johnson, Hilltown, Pa.; Jefferson Medical College of Philadelphia, 1883; member of the Medical Society of the State of Pennsylvania; aged 68; died, January 18.

Charles Wilbur Walling ⊕ Johnson City, N. Y.; Long Island College Hospital, Brooklyn, 1899; aged 49; died, in January, at Binghamton, following a long illness.

William Leo Hetherington, Saranac Lake, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1896; aged 51; died, January 18, of tuberculosis.

Petit T. Reynolds ⊕ Monroe, Ga.; University of Alabama School of Medicine, Tuscaloosa, 1897; aged 51; died, January 10, of influenza and pneumonia.

Augustus C. Crothers, Havre de Grace, Md.; University of Maryland School of Medicine, Baltimore, 1888; aged 64; died, January 20, following a long illness.

J. Howard Willets, Port Elizabeth, N. J.; Jefferson Medical College of Philadelphia, 1858; Civil War veteran; aged 92; died, January 22, at Bridgeton.

Duncan Fraser Stewart ⊕ Galva, Ill.; Rush Medical College, Chicago, 1900; county coroner; aged 55; died, January 30, following a long illness.

Charles Melville Jordan, Ozone Park, N. Y.; Medical Department of the University of the City of New York, 1880; aged 72; died, January 17.

Samuel Benjamin Fowler, Hendersonville, Tenn.; Medical College of Ohio, Cincinnati, 1881; aged 72; died, January 18, at a hospital in Nashville.

Joseph L. Clark, Jonesboro, Tenn. (licensed, Tennessee, 1889); member of the Tennessee State Medical Association; aged 74; died, January 10.

Ross William Morrish ⊕ Fort Collins, Colo.; University of Colorado School of Medicine, Denver, 1914; aged 37; died, January 14, of pneumonia.

Herman B. Oliver, Fillmore, Ky.; Kentucky School of Medicine, Louisville, 1892; aged 60; died, January 10, at Beattyville, of carcinoma.

William Lawrence Kelleher ⊕ Marlboro, Mass.; Tufts College Medical School, Boston, 1923; aged 32; died, January 16, of pneumonia.

George W. Miller ⊕ Joplin, Mo.; Bellevue Hospital Medical College, New York, 1880; aged 80; died, January 13, following a long illness.

Charles Williard Fox, Roaring Spring, Pa.; Jefferson Medical College of Philadelphia, 1882; aged 66; died, January 15, of pernicious anemia.

James F. Saltry, Scranton, Pa.; College of Physicians and Surgeons, Baltimore, 1887; formerly county coroner; aged 59; died, January 7.

Joseph Melville King, Damariscotta, Maine; Boston University School of Medicine, 1880; aged 72; died, January 18, of angina pectoris.

William C. Karzke, Milwaukee; Wisconsin College of Physicians and Surgeons, Milwaukee, 1907; aged 44; was found dead, January 25.

John B. White, Cave City, Ky.; University of Louisville School of Medicine, 1888; aged 76; died, January 26, of cerebral hemorrhage.

Crosby A. Perry, Pittsfield, Mass. (licensed, Vermont, year unknown); Civil War veteran; aged 87; died, January 19, at North Adams.

George Henry Hashinger, Kansas City, Mo.; Kansas City Medical College, 1894; aged 65; died, January 18, at St. Luke's Hospital.

Henry G. Wagner, Washington, D. C.; Georgetown University School of Medicine, Washington, D. C., 1885; aged 81; died, January 21.

Albert Arthur Hill, Indianapolis; American Medical College, Indianapolis, 1897; died, January 23, following an appendectomy.

Charles T. Baber, Franklin, Ark.; Memphis Hospital Medical College, 1892; aged 61; died, January 8, of cerebral hemorrhage.

Alexander K. Crawford, Oakland, Calif.; Hahnemann Medical College and Hospital, Chicago, 1880; aged 73; died, Oct. 26, 1925.

Charles Otis Kimball, New York; Bellevue Hospital Medical College, New York, 1898; also a dentist; aged 80; died, Dec. 2, 1925.

Leopold H. R. Hibbe, New York; Medical Department of the University of the City of New York, 1891; aged 60; died, January 24.

Edward Roland Hart ⊕ Suffolk, Va.; University of Maryland School of Medicine, Baltimore, 1901; aged 46; died, January 22.

John T. Hunt, Macedonia, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; aged 81; died, January 20, of pneumonia.

Donato Antonio Laurenzana ⊕ Chicago; University of Naples, Italy, 1891; aged 60; died, Dec. 19, 1925, of angina pectoris.

Samuel Gilbert Gay ⊕ Selma, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1887; aged 61; died, January 15.

Mary L. Becker, St. Louis; Homeopathic Medical College of Missouri, 1878; aged 78; died, January 14, of heart disease.

George O'Gorman, Newark, N. J.; Medical Department of Columbia College, New York, 1881; aged 67; died, January 18.

George W. Milligan, Springfield, Ill.; College of Physicians and Surgeons, Keokuk, 1882; aged 72; died, January 23.

Josiah H. Payne, Columbus, Texas; Memphis Hospital Medical College, 1884; aged 73; died, Nov. 26, 1925.

James Marvin Prichard, Olinger, Va.; Eclectic Medical Institute, Cincinnati, 1874; aged 74; died, January 9.

Dalva Hamit Swope, Brockton, Mass.; Boston University School of Medicine, 1896; aged 58; died, January 21.

Selustias E. Cloud, St. Joseph, Mo.; Northwestern Medical College, St. Joseph, 1888; aged 78; died, January 17.

John Allen Barr, Pittsburgh; Bellevue Hospital Medical College, New York, 1874; aged 79; died, January 18.

Edward A. Patton, Pasadena, Calif.; Miami Medical College, Cincinnati, 1880; aged 67; died, Dec. 13, 1925.

John Edward B. Purdon, Willits, Calif.; University of Dublin, Ireland, 1885; aged 86; died, Oct. 18, 1925.

Joseph Allen Owen, Red Bluff, Calif.; Louisville Medical College, 1888; aged 66; died, Oct. 3, 1925.

Lorenzo D. Murphy, San Miguel, Calif. (licensed, California, 1876); aged 76; died, Oct. 1, 1925.

James P. Hobard, Birchwood, Wis.; Milwaukee Medical College, 1901; aged 52; died, January 9.

Joseph Buran, Los Angeles (licensed, California, 1924); aged 32; died recently.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

NATIONAL HEALTH SERVICE

Capitalizing Ignorance of Diet, Hygiene and Medical Science

Readers of The Journal will remember that during the past autumn the United States Public Health Service found it necessary to issue a warning against a concern with offices in Washington, D. C., calling itself the "National Health Service." The National Health Service is a commercial organization that the Surgeon General of the United States Public Health Service declared was attempting to capitalize the research work done by the United States government and to confuse the public into believing that it was in some way identified with the Public Health Service of the government.

The offices of the National Health Service are no longer in Washington, D. C., but in New York City. The concern is either operated from two addresses—17 West Sixtieth Street and 70 Fifth Avenue—or there are two concerns of the same name. From the first address a so-called "Book of Health," a urinalysis "health service" and a line of fad foods are sold. From the Fifth Avenue address letters are sent to industrial concerns urging them to purchase "a remarkable discovery for kidney disease, which has produced unbelievable results even in extreme cases where all other means have failed." Each concern denies connection with the other.

One Harry H. Balkin, who, according to reports, has represented himself to be a physician, was active in the field as a representative of the National Health Service of the West Sixtieth Street address. In fact, in Boston it became necessary to issue a police order forbidding Balkin from giving the so-called health talks on the streets of that city. Balkin, according to some of the National Health Service advertising, is a "Character Analyst and Vocational Advisor." A book of Balkin's, distributed by the National Health Service when in Washington, D. C., entitled "Analyzing Character," was said to show you "How to Read Character at a Glance" and "How to Become a Social Success," and how to do other interesting things.

The men said to be identified with the National Health Service at 17 West Sixtieth Street are, or were, if they are not still:

Harry Lataner	Marlyn Yates
Ben Lataner	Roland R. Conklin

Leonard Keene Hirshberg

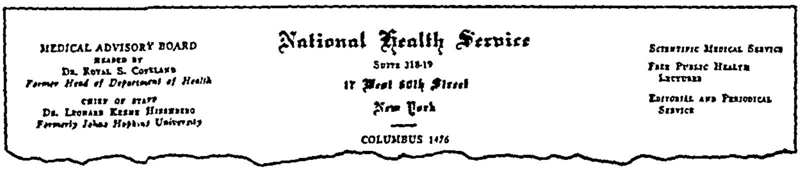
The concern, it appears, was established by Conklin, who is said to have been interested in motor busses and Florida real estate. Ben Lataner, it is claimed, is a baker. Leonard Keene Hirshberg, whose name now seems to overshadow all the others and whose professional perspicacity is strongly featured by the National Health Service, is the individual who a few years ago was publishing syndicated medical articles in newspapers credited to "Dr. Leonard Keene Hirshberg, A.B., M.A., M.D. (Johns Hopkins University)." Previous to that Hirshberg was a member of the American Medical Association and when, following some crude journalistic work, the Baltimore City Medical Society was about to expel him he obtained a court order holding up the action of the Board of Censors until he had time to resign. In 1916 and 1919 his name appeared in the *Bulletin* of the "Medical Society of the United States" as "Vice-President for Maryland" and on the earlier date he was scheduled to deliver a paper on "Why the Brain Has Little to do with Memory, Perception or Thinking." The Medical Society of the United States was an organization founded by Ohmann-Dumesnil and Emory Lanphear, originally brought into existence to organize fee-splitters but later described as a "Society of Protest Against the Autocracy of the A. M. A."

In September, 1922, the Better Business Bureau of New York City, a local branch of the national organization devoted to furthering "Truth in Advertising," published in a special *Bulletin* the case of the collapse of the blind-pool operated by Winthrop Smith & Company. The *Bulletin* said in part:

> "On September 7th, Post Office Inspector caused the arrest of Dr. Leonard K. Hirshberg of New York and Baltimore, the leading spirit of Winthrop Smith & Co., one of the large blind-pool houses of the east."

In due time Hirshberg came to trial, and in May, 1923, he was convicted of fraud and sentenced to four years in the federal penitentiary. Before he had been in the penitentiary a year newspapers reported that his friends, among them United States Senator Dr. Royal S. Copeland, were circulating a petition for the commutation of his sentence. In June, 1925, Hirshberg was paroled from the penitentiary. In July his name appeared on the stationery of the "National Health Service" as "Chief of Staff" of the "Medical Advisory Board." The name of Dr. Royal S. Copeland appeared at the same time on the same stationery as "Head" of the "Board." A few months later Dr. Copeland's name disappeared from the letter head.

A full-page advertisement of the National Health Service appears in the magazine *Psychology* for January, 1926. *Psychology* is devoted largely to the exploitation of psychic cure-alls. Not that physical nostrums do not find an apparent welcome in the advertising pages, where "Dream Interpretation," "Forecast of Your Vibrations," "Horoscopes" and "Human Analysis" are to be found rubbing shoulders with a rupture cure, a tobacco habit cure, an "Internal Bath" and a cure for enlarged prostate. The National Health Service advertisement in *Psychology* features Leonard Keene Hirshberg. His picture adorns the page and the public is advised to "Let the World's Greatest Specialist Tell You How to Gain Health, Strength, Beauty, Success, Vim, Vigor in Your Own Home Without Drugs."



MEDICAL ADVISORY BOARD
Headed by
Dr. Royal S. Copeland
Former Head of Department of Health
Chief of Staff
Dr. Leonard Keene Hirshberg
Formerly Johns Hopkins University

National Health Service
Suite 318-19
17 West 60th Street
New York
COLUMBUS 1476

Scientific Medical Service
Free Public Health Lectures
Editorial and Periodical Service

Letterhead of National Health Service, 17 West Sixtieth Street, New York, as sent out in the summer and autumn of 1925.

The advertisement suggests that the public order the "Book of Health" which will tell one "How to Successfully Treat" a long list of diseases commencing alphabetically at Acne and Anemia, through Blushing, Baldness, Brain Fag, Blackheads, Diabetes, Deafness, Falling Hair, Heart Disease, Hemorrhoids, Insomnia, Kidney Trouble, Liver Complaint, Mental Disease, Nervousness, Obesity, Pyorrhea, Rheumatism "and all other diseases." The book is described as an "astounding storehouse of Vital Health Knowledge." Two choice testimonials are part of the come-on. One is from a lady who says that she was so fat that her husband had threatened to leave her. She had "used every device known to reduce" with no avail until she got the "Book of Health" whereupon she "lost three pounds a week" whenever she wanted to. The other testimonial is credited to a man who says his priest told him about the Book of Health and since getting it, "it has cured seven different members" of his family of "stomach, liver and kidney troubles."

The National Health Service states in some of its advertising that it "is similar to the Life Extension Institute," and gives complete physical examinations with a "Standard Health Service" for $25. The concern has also advertised free "personal health examinations." These are offered in a circular that invites the public to come and listen to Leonard Keene Hirshberg the "Famous, Fiery Lecturer" and "Human Dynamo" who "has a startling message." This circular, like most of the National Health Service advertising, contains the inevitable Hirshberg photograph, the "Humanitarian, Philosopher, Medical Scientist, Research Scholar." The leaflet, after giving an elaborate biography of Hirshberg (minus, of course, the unpleasant blind-pool and penitentiary episodes) ends with this impassioned peroration:

> "As a forceful, fiery Lecturer he stands pre-eminent. You will hang on his every word—drink in deep his message.
>
> "As a Philosopher few men have surpassed him. As a Medical Scientist he is internationally Famous. As a Consulting Physician he enjoys the distinction of having one of the largest practices in all the United States. He is recognized as one of the few Great Medical Geniuses of the present Century. You cannot afford to miss this Medical Scientist's mighty message. He has a pleasing, magnetic Personality, a living example of the things he preaches.
>
> "Wherever this Great Dynamic Lecturer speaks in public thousands flock to hear him, vast crowds gather close and strain every nerve to listen. They know his every utterance is of momentous value, that he has something really worth while to say. Wise folk hungry for this New Knowledge he is about to impart, will come early at each Lecture to make sure of getting a seat, and a FRONT seat at that."

THE BOOK OF HEALTH

The "Book of Health," distributed in 1925 (copyright, 1924), is, according to the title page "Written and compiled for the National Health Service from data provided by the principal Food and Health Experts of America" and "Published by the National Health Service, Munsey Bldg., Washington, D. C." The cover, however, declares that it is "Published and Distributed by the National Health Service Bureau, 17 West 60th Street, New York City." Mr. H. Lataner in a letter to The Journal written in July, 1925, declared that "several physicians in good standing in the American Medical Association furnished original articles for the book." The names of none of them appear in the publication; even cursory reading makes one appreciate the reasons for anonymity.

In the preface reference is made to the bulletins and reports issued by the "United States Government through its Health Service Bureau." There is, of course, no such branch of the government known as the "Health Service Bureau." It is worth remembering, however, that originally the "National Health Service" was known as "National Health Service Bureau, Washington, D. C." No wonder the government has received letters from individuals who had the impression that the book was issued under government supervision. After the government had publicly disclaimed any connection with, or endorsement of, the National Health Service the latter issued a mimeographed circular in which it declared that it was "not in any way connected, even remotely, with any other organization." Further: "It is not in any shape or form a part of any city, state or federal government department, bureau or council."

A study of the book shows it to be a mixture of the banalities of elementary dietetics and hygiene, and quotations from faddists of the type of J. H. Tilden and Alfred McCann. One chapter in the book purports to give the therapeutic virtues of certain common foods. Thus:

> "Carrots.—A valuable blood purifier and nerve tonic. . . ."
>
> "Garlic.—Nature's own antiseptic. It is more powerful in its antiseptic action in the body than any artificial germicide. . . ."
>
> "Onions.—A valuable antiseptic and blood purifier. . . . Onions and carrots for a good complexion."
>
> "Pie.—The commercial product generally comes with coal tar coloring, canned filling, chemical preservatives, and bleached white flour."
>
> "Radishes.—Valuable as a tonic."

Physicians reading the chapter dealing with "Tonsils and Adenoids" will be interested in this clinical note:

> "European children are rarely affected with diseased tonsils. The children of savage and primitive tribes do not know that such a malady exists. The reason for this is that they have no impure candy made from coal tar poison."

In the chapter on "Appendicitis" we learn that the ". . . mysterious organ known as the Vermiform Appendix is a narrow gland situated at the base of the bowel." We are then told that persons suffering from chronic constipation are "apt to have a food mass stuck" at the "secum" (*sic!*). All of this leading up to the subject matter of the chapter:

> "People are frightened because they have been told that unless an operation is performed the appendix will burst. There is very little

ground for this fear, because death as the result of a burst appendix rarely takes place except on the operating table A surgeon will often tell his unfortunate victim, or the latter's heirs (should the operation be successful, but the patient die) that the appendix burst Such a statement is frequently made by the surgeon when proof is not obtainable and his word must be taken"

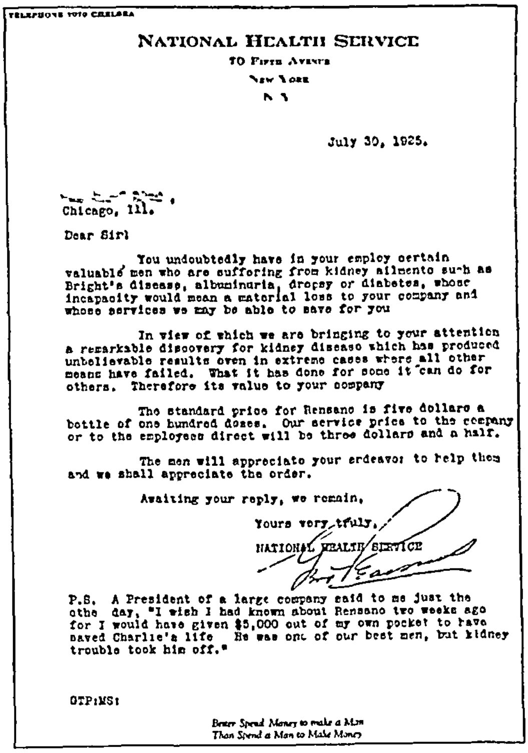
This, and much more appears in the "Book of Health," which is said to have "all the value of a twenty-five dollars health course" and sells for a mere two dollars. The book is puffed in a four-page circular entitled "Millions Hunger for the Valuable Secrets This Book Discloses." The first page of the circular is a personal, heart-to-heart letter from Dr Leonard Keene Hirshberg, who wishes to explain "in a most direct and personal way" why he has "accepted the distinguished appointment as Physician in Chief of the fine staff of the National Health Service." The letter is adorned by a picture of the doctor himself. Under the picture is a long list of his degrees and of his literary attainments. It tells where he was in 1902 and 1903, and what he accomplished in 1904 and 1908. It is silent on what he was doing in 1923 and 1924.

THE FAD FOOD BUSINESS

Another circular sent out by the National Health Service is entitled "You Are What You Eat." It, too, contains the same picture of Dr. Hirshberg and the extended, although incomplete, biography. The circular deals with the special foods described as "National Health Foods," which the concern puts out. These foods, we are told "vitalize the body," "overcome weakness" and "banish disease" Among the foods listed are the following:

"Dr Hirshberg's Honey—Nature's golden sugar in semi liquid form"

"Dr Hirshberg's Corn Meal—A body builder"



TELEPHONE 7070 CHELSEA

NATIONAL HEALTH SERVICE

70 Fifth Avenue

New York

N. Y.

July 30, 1925.

[illegible]

Chicago, Ill.

Dear Sir:

You undoubtedly have in your employ certain valuable men who are suffering from kidney ailments such as Bright's disease, albuminuria, dropsy or diabetes, whose incapacity would mean a material loss to your company and whose services we may be able to save for you

In view of which we are bringing to your attention a remarkable discovery for kidney disease which has produced unbelievable results even in extreme cases where all other means have failed. What it has done for some it can do for others. Therefore its value to your company

The standard price for Rensano is five dollars a bottle of one hundred doses. Our service price to the company or to the employees direct will be three dollars and a half.

The men will appreciate your endeavor to help them and we shall appreciate the order.

Awaiting your reply, we remain,

Yours very truly,

NATIONAL HEALTH SERVICE

P.S. A President of a large company said to me just the othe day, "I wish I had known about Rensano two weeks ago for I would have given $5,000 out of my own pocket to have saved Charlie's life He was one of our best men, but kidney trouble took him off."

GTP:MS:

Better Spend Money to make a Man
Than Spend a Man to Make Money

Photographic facsimile of a circular letter sent out by National Health Service, 70 Fifth Avenue, to industrial concerns, puffing the sale of an alleged cure for Bright's disease. Analysis shows the stuff to be essentially milk sugar

"Dr Hirshberg's Olive Oil—Treated with ultra violet rays—ideal for cooking and can also be used as a scalp massage"

"Dr Hirshberg's Coffee—97 per cent free from the poisonous caffein"

"Dr Hirshberg's Bran for Constipation"

In addition to the Hirshberg line there is also a "National Health" line. Thus we have:

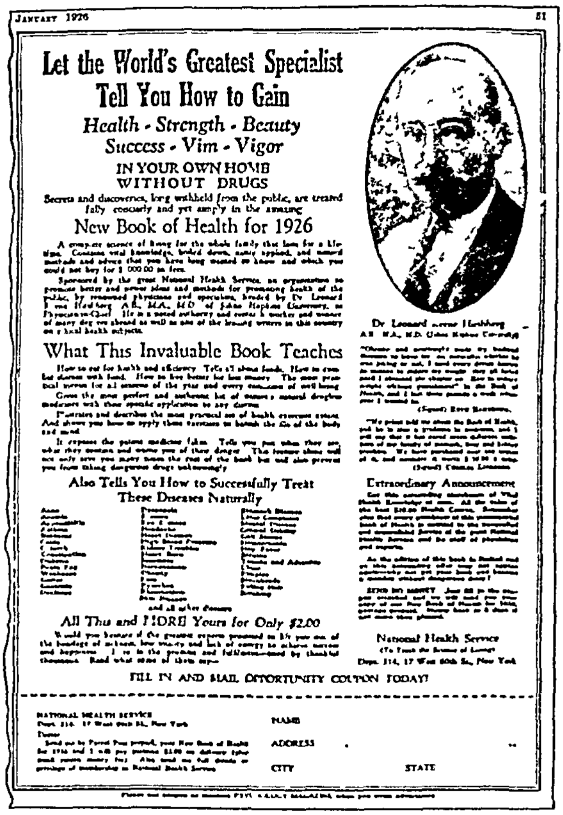
"National Health Dates—A food that makes nerves tough as steel and blood tingle with health"

"Health Service Unpearled Barley—Iron in delicious and edible form"

"Health Service Smyrna Figs—Relieves constipation and does not rip the intestines to pieces as other physics do"

"Health Service Peanut Butter—It gives the body the power and initiative that is so needed in business and social life"

"National Health Whole Wheat Spaghetti—It is a flesh reducer and a body strengthener."



January 1926 81

Let the World's Greatest Specialist Tell You How to Gain

Health - Strength - Beauty
Success - Vim - Vigor

IN YOUR OWN HOME
WITHOUT DRUGS

Secrets and discoveries, long withheld from the public, are treated fully concisely and yet amply in the amazing

New Book of Health for 1926

What This Invaluable Book Teaches

Also Tells You How to Successfully Treat These Diseases Naturally

All This and MORE Yours for Only $2.00

Extraordinary Announcement

National Health Service

FILL IN AND MAIL OPPORTUNITY COUPON TODAY!

NAME

ADDRESS

CITY STATE

Photographic reproduction (reduced) of full page advertisement of National Health Service, 17 West Sixtieth Street, in the fad magazine *Psychology* of January, 1926

RENSANO, THE KIDNEY CURE

The activities so far described are carried on by the National Health Service from the address 17 W. Sixtieth St, New York City. As has already been stated, there is another National Health Service at 70 Fifth Avenue, New York City. This apparently is a subsidiary concern of a "patent medicine" company—"Sano Company"; it denies any connection with the Sixtieth Street organization. Under the name "National Health Service" letters, signed George T. Pearson, have been sent to industrial concerns. These letters read.

"You undoubtedly have in your employ certain valuable men who are suffering from kidney ailments such as Bright's disease, albuminuria, dropsy or diabetes, whose incapacity would mean a material loss to your company and whose services we may be able to save for you.

"In view of which we are bringing to your attention a remarkable discovery for kidney disease which has produced unbelievable results even in extreme cases where all other means have failed What it has done for some it can do for others Therefore its value to your company.

"The standard price for Rensano is five dollars a bottle of one hundred doses Our service price to the company or to the employees direct will be three dollars and a half

"The men will appreciate your endeavor to help them and we shall appreciate the order"

One industrial concern ordered a bottle of Rensano. The carton in which the nostrum came declared that it was "Prepared by Sano Company, 70 Fifth Ave, N. Y. City." Later a physician wrote to the National Health Service at 70 Fifth Avenue, stating that he hesitated to prescribe the product without knowing something about its composition and asking for information regarding it. He received a reply from 70 Fifth Avenue, but not on the stationery of the National Health Service. It was on the stationery of "Sano

Company," which had the same telephone number and whose letter, like the one received on the stationery of the National Health Service of the same address, was signed "George T. Pearson." It was a most cordial letter but it studiously ignored the request for information. It named a large number of drugs and groups of drugs that Rensano was said *not* to contain but did not name any drugs that Rensano *did* contain. An unopened, original bottle of the stuff was turned over to the Chemical Laboratory of the American Medical Association. The report follows:

> LABORATORY REPORT
>
> One original bottle of Rensano (Sano Company, New York) was submitted to the A. M. A. Chemical Laboratory for examination. The bottle contained 238 white tablets having an odor of alcohol and a slightly sweet taste; the average weight of each tablet was 0.13 Gm. (2 grains). The presence of 13 per cent alcohol was declared on the label. Tests for alkaloids, even in minute amounts, were negative. The amount of ash was negligible. Tests for lactose (milk sugar) and alcohol were positive. No other substances were found. From the chemical examination it was concluded that Rensano contained lactose and alcohol; the alcohol was not in amounts to be therapeutically active—less than ⅓ of 1 drop (minim) of alcohol per tablet.
>
> In order to demonstrate pharmacologically, as well as chemically, the absence of therapeutically active ingredients in the dose recommended, the Laboratory received the cooperation of Dr. Hugh A. McGuigan, Professor of Pharmacology and Therapeutics, University of Illinois. In due time Dr. McGuigan reported his experiments as follows:
>
> > The following pharmacologic tests were made with "Rensano for the Kidneys."
> >
> > 1. A solution of 5 tablets in 4 cc. of water was injected into the peritoneal cavity of a rat weighing 185 grams.
> > 2. A solution of 10 tablets in 7.0 cc. of water was injected into the peritoneal cavity of a rat weighing 200 grams.
> > 3. A solution of 20 tablets in 20 cc. of water was injected intravenously into a rabbit weighing 1,500 grams.
> > 4. A solution of 40 tablets in 20 cc. of water was injected into the jugular vein of a young dog weighing 5.5 kilos (12 pounds).
> >
> > *Results:* In no case was there any effect. There was no perceptible change in the heart rate, respiration, size of pupil, condition of reflexes, no salivation, no vomiting, no diarrhoea, no action on the kidney, no other action that could be observed or felt. The dose that these small animals received was immense and yet they showed no change from the normal.
> >
> > In addition I took 20 tablets myself. As far as could be observed or felt there was no action.
> >
> > From the evidence it appears certain that these tablets are physiologically and therapeutically inert.
>
> Thus from both the chemical and pharmacological examination, Rensano may be considered therapeutically inert.

It will be seen from the report that both chemical and physiologic tests show that Rensano is essentially milk sugar with a minute amount of alcohol. This inert and therapeutically worthless product which is sold at $5 a bottle (2½ cents a tablet) is exploited to individuals and industrial plants with the suggestion that working men suffering from such serious conditions as nephritis and diabetes should be given this product in lieu of medical attention.

The scientific status of the National Health Service as conducted from either of the addresses given and by whatever individuals, is fairly obvious.

Dietary Needs.—Dietary needs are varied by individual differences, by the temperature, and by the nature and length of the day's work. The perfect diet for one may be inadequate for another. Food requirements for individuals who work outdoors in the fresh air are different from those of the professional or business worker or for the student whose work is indoors. It is always desirable, whenever possible, to include green and leafy vegetable and dairy products in the daily diet of either the outdoor or the indoor worker. Cold weather calls for more of the heat producing foods, and hot weather for greater portions of fruit and of vegetables.—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 19.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FORMALDEHYD FUMIGATORS

To the Editor:—The Bauer and Black fumigators, said to contain "dry paraformaldehyd," are claimed to be effective in the proportion of 2 ounces to 1,000 cubic feet. Forma Germkill fumigators, containing dry solidified formaldehyd, claim an efficiency of double this (1½ ounces to 1,500 cubic feet). If there is any essential difference between dry paraformaldehyd and solidified formaldehyd, I wish you would tell me what it is. It seems to me there should be a definite standard of requirement for these preparations.

JOHN JOHNSTON, M.D., Ritzville, Wash.

ANSWER.—The term "solidified formaldehyd" is used loosely, sometimes denoting "dry paraformaldehyd," but more generally denoting a solidified mass of soap, tallow, or such substance with formaldehyd (a parallel example is "solidified alcohol"). When solutions containing formaldehyd (HCHO) are allowed to evaporate there is a change to the ordinary polymeric form (paraformaldehyde U. S. P.) having the formula $(HCHO)_3$, although there is a possibility of preparing six polymers having the empiric formula $(HCHO)_n$. When Paraformaldehyde U. S. P. is heated, formaldehyd and some sublimed paraformaldehyd are given off. As the amount of moisture, temperature, yield of formaldehyd vapors, etc., are important factors when estimating efficacy of formaldehyd vapors, it is not practical to state the relative effectiveness as ordinarily employed. The amounts recommended by various manufacturers for use of paraformaldehyd should be approximately the same; in the case of solidified formaldehyd, the concentration of the formaldehyd and the amount of vapor evolved must be known before making even approximate estimations of the relative efficiency. The fact is, fumigation as a means of preventing the spread of disease is regarded of far less importance than formerly. For the last fifteen years (THE JOURNAL, Jan. 15, 1916, p. 209) the value of routine fumigation of rooms has been questioned by health authorities; in many cities terminal disinfection has been omitted, without evidence of notable increase in the number of secondary cases.

There is ground for believing that the share of inanimate objects in spreading disease is not so great as at one time supposed, and that the available evidence indicates that pathogenic bacteria discharged from the body die off rather quickly under the influence of drying, oxygen and sunlight (THE JOURNAL, April 15, 1922, p. 1149).

Fumigation in tuberculosis was discussed in Queries and Minor Notes, THE JOURNAL, Sept. 12, 1925, p. 845.

DRINKING ALCOHOL U. S. P.

To the Editor:—Will you kindly advise me if a patient drinks pure alcohol U. S. P., is it more harmful or less harmful if properly diluted in his stomach with distilled water than a similar quantity of alcohol consumed in "Bottled in Bond Whisky"? In other words, is alcohol (pure) any more harmful diluted with water than a similar amount drank in bonded whisky?

J. B. WILLIAMS, M.D., Los Angeles.

ANSWER.—Pure alcohol properly diluted is no more harmful than whisky consumed in similar quantity and concentration; it is indeed less harmful than insufficiently aged whisky. There is a possibility that some of the "ethers" contained in whisky might impart to it a somewhat greater "stimulating" value; but this effect, if present, is merely evanescent, and is essentially the same as that obtained by an equivalent amount of alcohol.

WHITE SPOTS ON FINGER NAILS

To the Editor:—Will you kindly tell me the cause of "white spots" occurring in the finger nails? Has this condition any clinical significance? I have a patient who is suffering from an acute articular rheumatism who tells me that these "white spots" always appear soon after the onset of the rheumatic condition. I should like to know if there is any relation between these two conditions. Please omit my name.

M.D., Illinois.

ANSWER.—White spots of the finger nails, or leukonychia, are due to the presence of air between the layers of the nail plate. This condition is most frequently the result of traumatism, but occurs not infrequently without any apparent cause. Changes in the nail are seen occasionally in association with rheumatism, but usually in the form of pitting of the nail.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 2. Sec., Dr. Harry C. De Vighne, Juneau.

CALIFORNIA: Los Angeles, March 8-11. Sec, Dr. Charles B. Pinkham, Room 906, Forum Bldg, Sacramento

CONNECTICUT: Hartford, March 9-10. Sec., Dr. Robert L. Rowley, 79 Elm St, Hartford Homeo Board, New Haven, March 9. Sec, Dr. Edwin C. M. Hall, 82 Grand Ave, New Haven.

IDAHO: Boise, April 6. Commissioner of Law Enforcement, F. A. Jeter, Boise.

MAINE: Portland, March 9-10. Sec., Dr. Adam P. Leighton, Jr., 192 State St, Portland.

MASSACHUSETTS: Boston, March 9-11. Sec, Dr. Frank M. Vaughan, 144 State House, Boston.

MISSOURI: Jefferson City, March 9-11. Chief, Licensure, Dr. Ross Hopkins, Capitol Bldg, Jefferson City, Mo

MONTANA: Helena, April 6 8. Sec., Dr. S. A. Cooney, Helena

NEW HAMPSHIRE. Concord, March 11-12 Sec, Dr. Charles Duncan, Concord

OKLAHOMA: Oklahoma City, March 9 10 Sec, Dr J. M Byrum, Shawnee.

PORTO RICO: San Juan, March 2. Sec, Dr. D. Biascoechea, Box 804, San Juan.

California October Examination

Dr. Charles B. Pinkham, secretary of the California Board of Medical Examiners, reports the written examination held at Sacramento, Oct. 19-22, 1925. The examination covered 9 subjects and included 90 questions An average of 75 per cent was required to pass. Of the 56 candidates examined, 47 passed and 9 failed. Seventy-nine candidates were licensed by reciprocity and 1 by endorsement of credentials. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
College of Medical [illegible]	(1925)	79.4
College of Physiciar [illegible]	[illegible]	77.4
University of Calif. [illegible]	[illegible]	83.9, (1924) 88 7, (1925) 79
George Washington University Medical School	(1925)	88 8
Northwestern University Medical School	(1922)	79.1
Rush Medical College	(1923)	82 9
University of Illinois College of Medicine	(1925)	84, 86 2
Indiana University School of Medicine	(1925)	79.2
State University of Iowa College of Medicine	(1924)	83 7
Tulane University of Louisiana School of Medicine	(1925)	82.4, 85.8
Johns Hopkins University Medical Department	(1922)	81.2
Harvard University (1923) 81 3, 83 4,	(1925)	84
University of Michigan Medical School	(1924)	77 2, 86 7
St Louis College of Physicians and Surgeons	(1923)	78 4
Washington University School of Medicine	(1925)	78 3
University of Buffalo Department of Medicine	(1924)	82.3
University of Oregon Medical School (1924) 75,	(1925)	75 4, 87.9
University of Pennsylvania School of Medicine	(1923)	82 4, 89, (1924) 80 4, (1925) 90 7
University of Tennessee College of Medicine	(1924)	75
University of Toronto Faculty of Med. (1914) 89 1,	(1923)	84.4
Western University Faculty of Medicine (1908) 85 6,	(1922)	76 7
University of London, England	(1909)	81 8
University of Berlin, Germany (1921)* 79 6,	1922)	85.7
University of Leipzig, Germany	(1923)*	84 9
University of Munich, Germany	(1918)*	82 6
National University, Athens, Greece	(1913)*	75.7
University of Dublin, Ireland	(1924)	88.4
Literary and Scientific Institute, School of Medicine of San Luis Potosi, Mexico	(1920)*	78 8
University of St. Vladimira, Kief, Russia	(1915)*	80 9
University of Tomsk, Russia	(1913)*	75 8
University of Edinburgh, Scotland	(1923)	93 2
University of Geneva, Switzerland	(1910)*	86 6

College FAILED	Year Grad	Per Cent
College of Medical Evangelists	(1925)	77
McGill University Faculty of Medicine	(1886)	63
University of Heidelberg, Germany	(1923)*	67.7
University of Gottingen, Germany	(1923)*	64
National University, Athens, Greece	(1923)*	55.7
University of Budapest, Hungary	(1922)*	60.7
University of Rome, Italy	(1916)*	53
National School of Medicine, Mexico	(1924)*	70
School of Medicine and Surgery, Lisbon, Portugal	(1923)*	54.1

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas Medical Department	(1912)	Arkansas
Georgetown University School of Medicine	(1909)	Hawaii
(1923) District of Columbia		
Chicago Homeopathic Medical College	(1903)	Illinois
Chicago College of Medicine and Surgery	(1914)	Iowa
[illegible] rgeons, Chicago.	(1890)	Illinois
[illegible] ical School (1904),	(1915)	Illinois
[illegible] (1898) Wyoming, (1904) Montana,		Oregon
[illegible] regon, (1912) Utah		
Keokuk Medical College, [illegible] of Phys and Surgs.	(1903)	Iowa
State University of Iowa College of Medicine	(1913)	Iowa
Kentucky University Medical Department, Louisville.	(1906)	Philip. Isl.
University of Louisville School of Medicine	(1909)	Missouri
Tulane University of Louisiana School of Medicine	(1907)	Louisiana
Baltimore Medical College (1901) Oregon,	(1902)	W. Virginia
College of Physicians and Surgeons, Baltimore	(1903)	Penna.
Harvard University	(1923)	New York
Tufts College Medical School	(1909)	Mass
Michigan College of Medicine and Surgery	(1901)	Montana
University of Michigan Medical School (1918),	(1921)	Michigan
Medical Department, Hamline University	(1904)	Minnesota
Central Medical College of St. Joseph	(1904)	Nebraska
Ensworth Medical College, St. Joseph	(1908)	Kansas
Kansas City Hahnemann Medical College	(1912)	Kansas
St. Louis College of Physicians and Surgeons	(1908)	Missouri
St. Louis University School of Medicine	(1914)	Missouri
Washington Univ. School of Med. (1911) Missouri,	(1919)	W. Virginia
Creighton Medical College	(1924)	Nebraska
John A. Creighton Medical College. (1908) S. Dakota,	*(1909)*	*Nebraska*
Lincoln Medical College, Eclectic, Lincoln	(1911)	Nebraska
University of Nebraska Coll. of Med. (1904) Iowa,	(1924)	Nebraska
Albany Medical College	(1910)	New York
Cornell University Medical College	(1924)	New York
New York Med. Coll. and Hosp for Women, Homeo.	(1901)	New York
Syracuse University College of Medicine	(1913)	New York
University and Bellevue Hospital Medical College	(1921)	New York
University of Buffalo Department of Med. (1904),	(1921)	New York
Eclectic Medical Institute, Cincinnati	(1896)	Idaho
Ohio State University Coll. of Med. (1917) Colorado,	(1924)	Ohio
University of Oklahoma School of Medicine	(1918)	Idaho
University of Oregon Medical School (1907),	(1924)	Oregon
Jefferson Medical College of Philadelphia (1906),	(1912)	Penna.
(1916) Wisconsin		
Univ. of Pennsylvania School of Med. (1905) Penna.	(1921)	Minnesota
Meharry Med. College (1917) Texas, Louisiana,	(1920)	Oklahoma
University of Tennessee College of Medicine	(1924)	Tennessee
Vanderbilt University School of Medicine (1921),	(1924)	Tennessee
Fort Worth School of Medicine (1910), (1911),	(1918)	Texas
University of Texas Department of Medicine	(1923)	Texas
University of Vermont College of Medicine	(1904)	Vermont
Marquette University School of Medicine	(1913)	Wisconsin
Milwaukee Medical College	(1910)	Wisconsin
Trinity Medical College, T[illegible]	[illegible]	Nevada
McGill Univ. Faculty of [illegible]	[illegible]	Maine
Nippon Special Medical S[illegible]	[illegible]*	Texas
Osaka Prefecture Higher Medical School	(1914)*	Nevada
University of St. Vladimira, Kief, Russia	(1900)*	Illinois
American University Medical School, Beirut, Syria	(1888)	Mass.

College ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
University of Virginia Department of Medicine	(1916)	U.S P.H.S.

* Verification of graduation not yet completed by the American Medical Association.

Book Notices

SURGICAL TECHNIQUE. Edited by Emmet A. Printy, M.D. Leather. Price, $8. Pp. 305, with illustrations. Chicago: The Laboratory of Surgical Technique of Chicago, 1925.

This is not intended as a textbook of operative surgery but was prepared in response to requests from those who have taken the postgraduate work of the organization that publishes it. The work is divided into nine sections. The first section, contributed by Printy, deals with general operative technic, covering some general remarks, hemostasis, suture and ligature materials, and the tying of knots, and ends with a discussion of abdominal incisions and methods of closure. The second section deals with operations on the intestine. Surgical anatomy of the small intestine is described by Robert E. Dyer. Printy then adds some general remarks and a discussion of resection of the small intestine, including lateral and end-to-end anastomosis, enterostomy and the use of the button. William J. Pickett concludes the chapter with a discussion of appendectomy, colostomy and colectomy. The third section deals with operations on the stomach. Operations for gastric and duodenal ulcer are described by Alfred A. Strauss, while Printy describes gastrojejunostomy and partial gastrectomy. The fourth section deals with operations on the gallbladder and bile ducts. This is contributed by Printy. The fifth section takes up inguinal hernia, by Printy, and femoral hernia, by Edmund Andrews. The sixth section, operations on the kidney and ureter, is contributed by Daniel N. Eisendrath. The seventh section, covering operations on the breast, and skin grafting, is written by Oscar E. Nadeau. The eighth section discusses operation on the thyroid gland, and tracheotomy. This begins with a discussion of thyroidectomies under local anesthesia, by Francis T. H'Doubler, and then Printy describes thyroidectomy, polar ligations and tracheotomy. The concluding section deals with operations on the blood vessels, and consists chiefly of a discussion on blood transfusion by Nelson M. Percy, and a short account of blood vessel anastomosis by William J. Pickett. The material covered is well presented and the text is greatly enhanced by the exceptionally clear and well drawn illustrations by Shepard. The book presents an excellent appearance, being well printed on heavy glazed paper. The binder is sufficiently large to hold double the present material. Each section is paged separately, and there is no index, save for the table of contents, which merely mentions the subjects covered in the section, without giving any page reference. If more sections are added in the future, it will be necessary to add an index. This volume recalls the operative surgery written by Axhausen, and the one written by Schmieden, in Germany, who presented in book form their courses in operative surgery on dogs and cadavers, given essentially for American students. There is a definite place in surgical literature for books of this type, and Printy is to be commended for having undertaken the work.

Die Lungentuberkulose, ihre Pathogenese, Diagnostik und Behandlung. Von Dr. med. Felix Klemperer, a. o. Professor an der Universität, Geh. San.-Rat, ärztl. Direktor des städt. Krankenhauses *Berlin-Reinickendorf. Third edition. Paper. Price, 10.80 marks. Pp.* 239, with 25 illustrations. Berlin: Urban & Schwarzenberg, 1925.

At a time when German medical literature is flooded with new tuberculosis remedies, and the young general practitioner must wade helplessly in a turmoil of bizarre therapeutic innovations, it is a pleasure to see that a veteran in the field may come through the welter uncontaminated. Klemperer's third edition is a sane compilation, the chief value of which lies in the conservatism with which the new remedies are treated. The author has no new system of his own to offer, nor does he champion the system of some one else. Nearly half the book is devoted to the treatment of tuberculosis in all its branches. Hygienic and dietetic management is considered of first importance. Brehmer's rule still holds: "Well people sit down when they are tired; consumptives sit down so that they won't become tired." Klemperer believes also in the basic soundness of tuberculin therapy, but fails to see that recent modifications surpass the old methods in value. After reviewing the literature on the numerous cutaneous and percutaneous methods of administration, and analyzing his own experience with the preparations used in these methods, he is unable to see any advantage over the old subcutaneous procedure. The partigens of Much fare no better. In spite of the colossal literature on this subject, Klemperer finds no reason for abandoning old tuberculin in favor of the partigens. The Friedmann turtle bacillus method and nonspecific protein therapy are likewise found wanting. Several gold cures are mentioned, and it is interesting to note that after personal experience Klemperer feels that the Møllgaard "Sanocrysin" treatment does not represent an advance. Symptomatic and surgical treatment are also discussed. Pneumothorax is considered in detail, and extrapleural thoracoplasty is accorded a page of small type. The first half of the book deals with classification, pathogenesis and diagnosis. Pathogenesis is discussed in terms of the classification popularized by Aschoff, in which pulmonary tuberculosis is divided into two prominent types, exudative and proliferative. Prognosis and diagnosis are defined in terms of these two types. The roentgen-ray differentiation is outlined with the aid of plates. The press work is good. The book is well indexed.

Birth Control. Facts and Responsibilities. A Symposium Dealing with this Important Subject from a Number of Angles. Edited by Adolf Meyer, M.D. Cloth. Price, $3. Pp. 157. Baltimore: Williams & Wilkins Company, 1925.

This is a collection of papers presented at the birth control conferences in Baltimore and Chicago in 1923. It is a useful and thought-provoking book. Its authors are not a group of wild-eyed radicals. Among the contributors are Adolf Meyer, Raymond Pearl and Reynolds A. Spaeth, professors in Johns Hopkins University; E. A. Ross, professor at the University of Michigan; C. C. Little, president of the University of Maine, recently called to the presidency of Michigan, and E. M. East, professor in Harvard College—men who face facts, not as they would have them or as we like to think they are, but as they are, and who are capable of drawing deductions from them. The topics considered should be of interest to serious minded men. For example, Pearl and East present the subject of the food problem in relation to the earth's future population, the subject whose all importance Malthus showed, but whose predictions we like to think were not correct because they have been postponed. Those who think that through some *deus ex machina*, such as getting protein out of the air and sugar and alcohol out of sawdust, the problem of feeding the future population of the United States, no matter how great, can be passed over with a wave of the hand as one that will easily solve itself, or who think that the thousands of miles of unoccupied lands of the West will in future meet this problem, regardless of the fact of their aridity, should find subject for thought in such presentations as the articles here by Pearl and East. And it is to be hoped that they will be stimulated to read further writings of the same and other authors on this subject. The ethical aspects of birth control, its social problems, and the relation of sex to mental hygiene are handled sanely and wisely by other writers. Intellectual honesty and for the most part intellectual courage show throughout the book. It is refreshing, for example, in contrast to the cant that is constantly uttered about sex, to see a statement by East like this: "No scientist familiar with the recent facts of neuropathology as to the ill effects of too stern a repression of the sex impulse could for a moment advocate the former [temporary celibacy in marriage]." The question of birth control is one of the most far-reaching social importance. It is having the consideration of leaders of thought. It is a problem in which medicine is involved and to which medicine should give more attention than it has heretofore done. Physicians should approach the subject without prejudice, and they should become informed on it. This little book, authoritative and readable as it is, is an introduction to the subject which can be highly recommended.

Pitfalls of Surgery. By Harold Burrows, C.B.E., M.B., B.S., Surgeon at the Gosport War Memorial Hospital. Second edition. Cloth. Price, $4.50. Pp. 525. New York: William Wood & Co., 1925.

This extensive recital of errors during surgical operations or resulting from them has been undertaken by the author in an effort to help, particularly, the younger surgeon. This work is limited largely to occurrences in the author's own experience. The records are reviewed in an interesting manner, and they reflect the personality of the writer throughout. They are taken up systematically according to the standard operations on the various parts of the body. In order to make his account more complete, the author cites a certain number of cases from the literature. Throughout the work, suggestions are made for avoiding surgical mistakes. The author believes that to a large extent these errors may be due to ignorance, carelessness, poor judgment and defective technic. While it is evident that avoidance of many of these mistakes is possible, this depends largely on fundamental medical knowledge, persistent efforts to approach the highest standards, and good judgment.

Modern Views on the Toxæmias of Pregnancy. By O. L. V. de Wesselow, M.B., F.R.C.P., Chemical Pathologist, St. Thomas's Hos*pital, and J. M. Wyatt, M.B., F.R.C.P., Obstetric Physician in Charge of* Out-Patients, St. Thomas's Hospital. Cloth. Price, $3. Pp. 99. New York: Paul B. Hoeber, Inc., 1925.

The primary object of this monograph is to provide the general practitioner with a short and concise account of the modern views on the toxemias of pregnancy. The authors have succeeded in carrying out their aim, but the value of the book is considerably diminished by the absence of a bibliography. Among the toxemias of pregnancy the authors discuss hyperemesis gravidarum, eclampsia, pre-eclampsia and nephritic toxemia. The etiology, symptomatology, therapy and prognosis of the toxemias are discussed, and also the methods of examination utilized in determining renal and hepatic function. In the discussion of the treatment of pernicious vomiting, the authors fail to mention such valuable aids as the duodenal tube, the intravenous use of glucose, and insulin. Ways of differentiating between nephritis and pre-eclamptic toxemia are given, and on page 91 there is a table for this purpose. However, the unreliability of this table is evidenced by the almost constant use of such terms as "sometimes," "frequently," "may be," and "tends to be." Unfortunately, we have as yet no certain tests by which we can distinguish between pre-eclamptic and nephritic toxemia during pregnancy and labor. The diastatic index of the urine, a test on which the authors lay great emphasis, is little used in this country. The book undoubtedly serves a useful purpose and should be of benefit to the general practitioner.

Immunisation locale pansements spécifiques. Par A. Besredka, Professeur a l'Institut Pasteur. Paper. Price, 20 francs. Pp. 252. Paris: Masson et Cie, 1925.

In experimental studies of anthrax, staphylococcus, streptococcus, dysentery and typhoid infections which primarily affect skin or mucous membranes, protection is obtained by local injections or applications of bacterial vaccines or culture filtrates. These results accord with certain clinical and epidemiologic features of the diseases, and are ascribed to a local immunity. This immunity is regarded as an outcome of a previous local susceptibility, or cell receptivity, and according to Besredka's observations there are no accompanying demonstrable antibodies in the blood serum. Considerations of the theories and work on general immunity and antibody formation, whose omission here achieves unmolested clarity, might not, however, preclude the described reactions as part of the general response of the organism.

Some Encouragements in Cancer Surgery. By G. Grey Turner, F.R.C.S., Honorary Surgeon, Royal Infirmary, Newcastle-upon-Tyne. Cloth. Price, $3.50. Pp. 75, with 40 illustrations. New York: William Wood & Co., 1925.

The material for this book was collected for a lantern demonstration and clinical report. Favorable results in a number of cases stimulated the author to follow up as many as possible of the patients, operated on for cancer in various regions of the body. There are excellent drawings of the gross specimens removed at operation. The author found a number of patients free from recurrence after many years although they had been considered hopeless before operation. This has encouraged him to operate in many cases of cancer in spite of the large size and the local extension. He emphasizes the importance of early diagnosis and thorough operation while the disease is still local, and believes that surgery offers the best chance for relief in most cases.

Minor Surgery. By Lionel R. Fifield, F.R.C.S., Surgical First Assistant and Registrar, London Hospital. Cloth. Price, $4.50. Pp. 431, with 271 illustrations. New York: Paul B. Hoeber, Inc., 1925.

As the subject of minor surgery has heretofore been treated as a minor matter, this volume is a welcome and valuable addition to surgical literature. The author is evidently a master of his subject and a clear, logical writer. Although a small volume, as surgical textbooks go, it covers the field thoroughly. Particularly well written are the chapters on fractures and on infection of the hand. The information throughout is of a most practical kind and is thoroughly up to date. The illustrations are by no means elaborate, but serve the purpose of aiding the text. The book should prove of particular value to the student in his surgical dispensary, to the intern in his surgical service, and to the industrial surgeon.

Sex at Choice. By Mrs. Monteith Erskine. With an Introduction by James Monteith Erskine, M.P. for the St. George's Division of Westminster. Cloth. Price, $2.50. Pp. 187, with 1 illustration. New York: G. P. Putnam's Sons, 1925.

The author holds that sex of the offspring is determined by the ovary that produces the egg, the right giving rise to males and the left to females. Alternate ovulation, of course, gives alternate sterile months for each ovary, and lateral decubitus aids in the semen entering the proper oviduct. Woman is considered different from lower animals in the specificity of sexually different ovaries. Enough evidence against this theory has already been published, and one can but wonder if all the work on sex chromosomes and the dimorphic sperms of the human being are to be ignored. Such statements as "The male, according to science, is not a sex determining begetter" does not coincide well with the refined cytologic work of Weniwarter and of Oguma and Kihara.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

Public Health Law. A manual of law for sanitarians. By James A. Tobey, M.S., LL.B., Lecturer on Public Health Law at the Massachusetts Institute of Technology, Yale School of Medicine, and Columbia University. Cloth. Price, $4.50. Pp. 304. Baltimore: The Williams & Wilkins Company, 1926.

The legal phases of public health administration are discussed, with references to 500 cases.

Biological Stains. A handbook on the nature and uses of dyes employed in the biological laboratory. By H. J. Conn, Chairman, Commission on Standardization of Biological Stains. Prepared with the collaboration of J. A. Ambler, S. I. Kornhauser, F. B. Mallory and L. W. Sharp. Cloth. Price, $2.50. Pp. 151, with illustrations. Geneva, N. Y.: The Commission, 1925.

A history of stains used in medical investigation, their preparation and uses.

Not Speaking of Operations. By John Finch Barnhill, F.A.C.S. Cloth. Price, $2. Pp. 159. Boston: Stratford Company, 1925.

An attempt to present the happier aspects of the life of the patient who has had a surgical operation.

Light and Health. By M. Luckiesh, Director, Lighting Research Laboratory National Lamp Works of General Electric Company, and A. J. Pacini, Director, Department of Biophysical Research, Victor X-Ray Corporation of General Electric Company. Cloth. Price, $5. Pp. 302, with 31 illustrations. Baltimore: Williams & Wilkins Company, 1926.

An attempt to define the present status of light therapy with a not too critical discussion of the available literature.

Acute Infectious Diseases. A handbook for practitioners and students. By J. D. Rolleston, M.A., M.D., Senior Assistant Medical Officer, Grove Fever Hospital, London. Cloth. Price, $5. Pp. 376. New York: Physicians & Surgeons Book Company, 1925.

Well written and practical work based on personal clinical experience.

Muscular Activity (The Herter lectures for 1924). By Archibald Vivian Hill, M.A., Sc.D., F.R.S., Professor of Physiology, University College, London. Cloth. Price, $2.75. Pp. 115, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

Dynamics, physiology and functional studies of muscle action.

Statistical Analysis. By Edmund E. Day, Professor of Economics, School of Business Administration, University of Michigan. Cloth. Price, $4. Pp. 459, with illustrations. New York: Macmillan Company, 1925.

A sound work but somewhat too detailed and technical for the average physician.

Annual Report of the Surgeon General of the Public Health Service of the United States. For the fiscal year 1925. Cloth. Pp. 314, with illustrations. Washington: Government Printing Office, 1925.

Reviewed under Medical News and in *Hygeia.*

Wunderheilungen und ärztlich Schutzpatrone in der bildenden Kunst. Von Dr. Oskar Rosenthal. Boards. Price, 24 marks. Pp. 42, with 102 illustrations. Leipsic: F. C. W. Vogel, 1925.

A collection of reproductions of paintings showing miraculous healings.

Meister der Heilkunde. Herausgegeben von Prof. Dr. Max Neuburger. Band 7. Max Pettenkofer. Von Dr. Otto Neustätter, Ehemaliger Direktor des Historisch-Ethnologischen Hygiene-Museums in Dresden. Boards. Price, 3.60 goldmarks. Pp. 93, with 1 illustration. Vienna: Julius Springer, 1925.

A sympathetic biography of the professor of hygiene.

Diagnostische und therapeutische Irrtümer und deren Verhütung Chirurgie. Herausgegeben von Prof. Dr. J. Schwalbe, Geh. San.-Rat in Berlin. Siebentes Heft. Verletzungen und chirurgische Krankheiten der Mund- und Rachenhöhle, des Halses einschl. der Speicheldrüsen, der Speiseröhre, des Kehlkopfes und der Trachea. Von Prof. Dr. Paul Clairmont, Vorstand der chirurgischen Klinik in Zurich. Paper. Price, 8.10 marks. Pp. 188, with 97 illustrations. Leipsic: Georg Thieme, 1926.

Monographic study, profusely illustrated, of the surgery of the mouth and upper respiratory tract.

Medicolegal

Statements of Injured Person as Basis of Opinion

(Sund v. Chicago, R. I. & P. Ry. Co. (Minn.), 204 N. W. R. 628)

The Supreme Court of Minnesota, in reversing an order which denied the defendant's motion for a new trial after the plaintiff had been given a verdict for $22,000 for damages for personal injuries, says that a physician who had examined the plaintiff in order to be a witness in his behalf gave, over the defendant's objection, an expert opinion based in part on statements made to him by the plaintiff. The physician stated that the plaintiff said that one of his complaints was that he couldn't remember anything; had lost his memory; couldn't remember people he had known well; that he was slipping; couldn't think clearly; also mentioned not remembering a nurse, while he was in the hospital.

It is the settled law in Minnesota that mere descriptive statements of a sick or injured person as to the symptoms and effects of his malady are admissible only under the following circumstances: First, they must have been made to a medical attendant for the purpose of medical treatment. Second, they must relate to existing pain or other symptoms from which the patient is suffering at the time, and must not relate to past transactions or symptoms, however closely related to the present sickness. Third, such statements are admissible only when the medical attendant is called on to give an expert opinion based in part on them. There are three reasons why the reception of the expert opinion of the physician mentioned above was erroneous—the statements were not made for the purpose of medical treatment; they did not relate exclusively to the present; the witness was not a "medical attendant."

If the witness is not to give an expert opinion, the statements are the same as if made to a layman. They are self-serving and hearsay. Not being the medical attendant, he cannot disclose the descriptive statements. To permit a physician to give his opinion based on the record in this case would be to have an expert opinion based on supposed facts, resting only on hearsay, and not supported by an oath. The exception to the general rule was in recognition of a strong probability that a person who made statements to his medical attendant for the purpose of treatment would tell the truth as to his existing pain and suffering. Under such circumstances there is a strong inducement for the patient to speak truly of his malady, while it may be otherwise when medically examined for the purpose of creating evidence in his own behalf. Hence the statements expressive of present conditions are permitted to be given as evidence only when made to a physician for the purpose of treatment by him.

But the declarations of a party himself, to whomsoever made, are competent evidence when they are expressive of existing pain or suffering. Such are regarded as exclamations or complaints which are the spontaneous manifestations of distress. But descriptive statements of existing pain or suffering are admissible only when made to a medical attendant for the purposes of medical treatment. These descriptive statements, not coming within the exception, were self-serving as well as hearsay.

Father Required to Pay Incurred Medical Expenses

(Jaeger v. Jaeger (Calif.), 238 Pac. R. 139)

The District Court of Appeal of California, first district, division 1, in affirming a judgment in favor of the plaintiff, says that when she was granted a divorce from the defendant she was awarded the custody of their only child, and the defendant was ordered to pay her $100 a month for her support and $30 a month for that of the child. Thereafter the child was taken ill and the plaintiff incurred expenses amounting to $993.85 for the services of physicians and nurses and for medicines. This action was then brought to recover that sum. It was not denied that the services or medicines were necessary, and the charges therefor reasonable; or that, had the application been made before the services and medicines were furnished, the court, the necessity appearing, would have had authority to make the order; but it was contended that, the services and medicines having been procured in advance, the court was without power to make an order directing payment by the guardian who had been appointed of the estate of the father, on account of the latter's being an incompetent person. Section 138 of the Civil Code of California, as amended in 1905, provides that

> In actions for divorce the court may, during the pendency of the action, or at the final hearing or at any time thereafter during the minority of any of the children of the marriage, make such order for the custody, care, education, maintenance and support of such minor children as may seem necessary or proper, and may at any time modify or vacate the same.

Based on the provisions of that section, the court, after due notice and hearing, made its order directing the guardian to pay to the plaintiff from the estate of the defendant in the due course of administration thereof $993.85, as and for the maintenance and support of the minor, in addition to the monthly payments theretofore ordered. It is the opinion of the district court of appeal that, in view of the purpose to protect the interests of the children and to enforce the obligations of the parents, a reasonably liberal construction of the language of the section as amended leads fairly to the conclusion that the order appealed from in this case was authorized by the section.

Immunities of Hospitals and Universities—Theories

(Hamburger v. Cornell University (N. Y.), 148 N. E. R. 539)

The Court of Appeals of New York, in affirming a judgment of the appellate division, which reversed one that was rendered in favor of the plaintiff, says that the plaintiff was injured by the explosion of chemicals while a student in a chemical laboratory in the defendant university. The appellate division held that the defendant was immune from liability to its students for the negligence of its administrative servants as well as of its teachers, and this though incompetent servants had been negligently chosen.

Cornell University is a charitable institution. As such, in its relation to its students, it has the benefit of certain immunities not shared by institutions organized for profit. The subject has had its chief consideration in actions against hospitals. Through such litigation, the rule is settled in New York State, and generally elsewhere, that a hospital, if public or charitable, is not liable for the negligence of its surgeons or physicians in the treatment of its patients. The question is still open whether it is liable to patients for the negligence of servants or administrative agents. The exemption from liability for the acts of surgeons or physicians arises from the nature of the enterprise or undertaking in which the hospital is engaged, and the implications of the contract between its patients and itself. Such a hospital undertakes not to heal or attempt to heal through the agency of others, but merely to supply others who will heal or attempt to heal on their own responsibility. Physicians and surgeons are employed by the hospital to exercise their profession and calling to the best of their abilities according to their discretion. A patient resorting to the hospital gains the benefit of facilities that would not otherwise be available. If these are furnished, he has no other remedy for the errors of surgeons or physicians, carefully selected, who have given him treatment in a ward than he would have if the same men on recommendation of the hospital had given him treatment at his home. By fair implication he must look to them alone.

This court thinks that a hospital's immunity from liability for the errors of surgeons and physicians is matched in the case of a university by a like immunity from liability for the errors of professors or instructors or other members of its staff of teachers. There is, indeed, a duty to select them with due care. That duty fulfilled, there is none to supervise day by day the details of their teaching. A university is not to answer in damages because false or pernicious doctrine is imparted to its students in laboratory or clinic, or because a warning of the danger of some experiment has been inadvertently omitted, or because, either in performing the experiment or in supervising it a teacher has combined the wrong ingredients or allowed them to be combined by others. This court finds no adequate distinction between the negligent use of a chemical in the course of an experiment and its negligent use or handling in preparation for an experiment. As well might one say that a surgeon would involve a hospital in liability if he failed, while preparing for an operation, to sterilize his instruments, though he would involve himself alone if guilty of a like omission while the operation was in progress.

Massachusetts adopts what is commonly known as the trust fund theory as the basis for the exemption from liability of charitable institutions. An immunity so grounded admits of no exception. In New York State, however, the trust fund theory has been rejected. In New York State a hospital or university owes to patients or to students whatever duty of care and diligence is attached to the relation as reasonably implicit in the nature of the undertaking and the purpose of the charity. All that is thus included is not susceptible of enumeration in advance of the event. It cannot be less, however, than appropriate investigation of the character and capacity of the agencies of service from the highest to the lowest. This is a duty that devolves on the corporation itself, and one not to be shaken off by delegation or surrender. A holding to that effect has support in an overwhelming preponderance of authority. For present purposes, this court assumes without deciding that the defendant is liable in like degree to students and to strangers for the negligence of servants; but no evidence in the record gave support to the conclusion that there was any such default in this case.

Damages for Injuries and Subsequent Heart Block

(McEachran v. Rothschild & Co., Inc. (Wash.), 237 Pac. R. 711)

The Supreme Court of Washington, in affirming a judgment for $35,000 damages in favor of the plaintiff, says that the defendant complained that the amount awarded was excessive. The plaintiff was unquestionably severely injured by being struck with great force by a piece of timber, and some of the injuries, apart from one to be mentioned, were of a permanent character. But they were not of such a character as to prohibit the plaintiff from engaging in all gainful callings, and did not, in the court's opinion, justify the very large verdict which the jury returned. But the evidence showed that in the November following the February in which the accident happened the plaintiff developed a heart block which possibly utterly incapacitated him from pursuing any gainful calling. It was given in testimony by the medical witnesses that the pulsations of his heart ranged from 26 to 32. He was subject to fainting spells, and could not safely walk the streets without an attendant. All the medical witnesses agreed that his condition was serious, lending no hope of actual cure, and not much of alleviation; and all agreed that the condition either could be caused, or, if latent, could be rendered acute, by the injury. In the light of these conditions, this court does not feel that it would be warranted in interfering with the verdict. A jury must be the final arbiter, and this court feels that there is but little reason for concluding that another jury would return a verdict for a less amount.

Employee Justified in Selecting Physician

(Gardner v. Michigan Sugar Co. et al. (Mich.), 204 N. W. R. 100)

The Supreme Court of Michigan says that the plaintiff suffered an accidental injury to his lip while working for the sugar company. A severe infection of the face and neck developed, and he was sent by his employer to a physician who had been designated by the company to treat its injured employees. The physician was away hunting, but his brother, who was also a physician, examined the lip, gave the plaintiff some medicine, and told him to return the next day, at which time he sent him to another physician, who treated him for nearly a week. The plaintiff suffered great pain, was not able to sleep, and did not seem to be making satisfactory progress under the treatment. He consulted his family physician, who advised him to notify the company that he had gone to another physician. He notified the manager of the company by letter, but received no reply. His family physician treated him for nearly seven weeks, until his recovery, and charged $39 for his services. An award was made, allowing compensation for disability and $39 for medical treatment. Objection was made to the allowance for the services of this physician on the ground that the company did not select him to treat the plaintiff. On the other hand, it was contended that, while the general rule that the employer has a right to select the physician who shall treat an injured employee was not questioned, under the circumstances shown by this record, the plaintiff was warranted in securing the medical attendance of his family physician at the company's expense, and the supreme court agrees with this, and that therefore the award should be sustained.

Privilege Not Waived as to Other Physicians

(Travelers' Ins. Co. v. Fletcher American Nat. Bank of Indianapolis et al. (Ind.), 148 N. E. R. 501)

The Appellate Court of Indiana, division 2, says that, in this action brought by the bank as the assignee of a policy of life insurance, the defendant insurance company contended that the trial court had erred in refusing to permit it to read in evidence the deposition of a certain physician; but that much of the deposition was privileged under the Indiana statute could hardly be questioned, for the physician was, at the time about which he testified, acting as the physician of the insured, giving him medical treatment. However, the defendant insisted that, as the plaintiff had called other attending physicians to testify as to the insured's condition of health, one of whom was in consultation, as to the insured's condition, with the physician who made the deposition, the plaintiff thereby waived its right to claim the statutory privilege as to the physician who made the deposition. But in Indiana it is held that, where a patient or his representatives avail themselves of the evidence of one attending physician, this does not constitute a waiver as to other attending physicians.

Services Rendered on Original Promise

(Pope v. Ellis (Ga.), 129 S. E. R. 11)

The Court of Appeals of Georgia, division 1, in affirming a judgment for the plaintiff, says, in a "syllabus by the court," without any published opinion or further statement of the facts, that, where a physician renders professional services to a minor child of a tenant, solely on the credit of the landlord's promise to pay for such services, the promise is an original and not a collateral undertaking, and is not within the statute of frauds. In the instant case the jury was authorized to find, from the evidence, that the landlord (the defendant) did make, in substance and effect, such a promise. In such a case the jury may find that the promisor is liable for the services of the physician, even though the father of the child treated was ignorant of the contract between the promisor and the physician, and regarded himself as solely liable for such services.

Society Proceedings

COMING MEETINGS

American Association of Pathologists and Bacteriologists, Albany, New York, April 2-3. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.

American College of Physicians, Detroit, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

American Congress on Internal Medicine, Detroit-Ann Arbor, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

New York, Medical Society of the State of, New York City, March 29-April 1. D. S. Dougherty, 17 W. 43d St., New York City, Secretary.

Oregon State Medical Society, Portland, April 1-2. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.

South Carolina Medical Association, Sumter, April 6-8. Dr. E. A. Hines, Seneca, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

75: 1-266 (Dec. 1) 1925

*Changes in Blood Sugar Which Follow Experimental Thyroid Feeding. K. G. Hancher, M. Hupper, N. F. Blau and J. Rogers, Ithaca, N. Y. —p. 1.
Effect of Potassium and Calcium on Response of Isolated Frog Heart to Nicotine W. Salant and H. Washeim, Jr., Augusta, Ga.—p. 6.
Effect of Concentration of Hydrogen Ions on Action of Nicotine. W. Salant, Augusta, Ga.—p. 17.
*Study of Heat Production in Pigeons on Diets Deficient in Vitamin B. C. J. Farmer and H. E. Redenbaugh, Chicago.—p. 27.
Decrease in Digestive Efficiency in Polyneuritis Columbarum. C. J. Farmer and H. E. Redenbaugh, Chicago.—p. 45.
*Comparison of Irritability of Men and Women. E. Williams, Urbana, Ill.—p. 52.
*Effect of Ultraviolet Radiation on Experimental Tetany. W. W. Swingle and J. G. Rhinhold, New Haven, Conn.—p. 59.
Chemical Regulation of Respiration. II. Quantitative Study of Accumulation of Lactic Acid in Isolated Brain During Anaerobic Conditions *and Rôle of Lactic Acid as Continuous Regulator of Respiration.* D. A. McGinty and R. Gesell, Ann Abor, Mich.—p. 70.
Factors Influencing Rate of Oxygen Consumption in Unicellular Organisms. J. M. Leichsenring, Urbana, Ill. —p. 84.
*Effects Produced by Extracts of Parathyroid Glands on Normal and Parathyroidectomized Dogs. N. F. Fisher and E. Larson, Chicago.—p. 93.
Altered Metabolism of Normal Animals Under Insulin Treatment. E. E. Hawley and J. R. Murlin, Rochester, N. Y.—p. 107.
Biuret-Free Insulin. R. S. Allen and J. R. Murlin, Rochester, N. Y.—p. 131.
Rotation and Acceleration Experiments, Mainly on Frogs. J. Tait, and W. J. McNally, Montreal.—p. 140.
Ablation Experiments on Labyrinth of Frog. W. J. McNally and J. Tait, Montreal.—p. 155.
Plethysmographic Study of Changes in Volume of Spleen in Intact Animal. E. H. Hargis and F. C. Mann, Rochester, Minn.—p. 180.
Effects of Mechanical Obstruction of Hepatic Veins and Peptone Shock. J. P. Simonds and W. W. Brandes, Chicago.—p. 201.
Studies in Vigor. V. Comparative Activity of Male and Female Albino Rats. F. A. Hitchcock, Columbus, Ohio.—p. 205.
Summation of Contractions in Skeletal Muscle. J. F. Fulton, Oxford, England.—p. 211.
Influence of Shortening on Size of Action Current and Duration of Mechanical Response of Skeletal Muscle. J. F. Fulton, Oxford, England.—p. 235.
Inseparability of Mechanical and Electrical Responses in Skeletal Muscle. J. F. Fulton, Oxford, England.—p. 261.

Effect of Thyroid Feeding on Blood Sugar.—Hancher et al. investigated the changes in the sugar content of the blood following the oral administration to dogs of four of the most widely advertised and most commonly used commercial preparations of thyroid, and compared these with a glycerol extract of the hashed fresh pig's gland. They found that the glycerol extract produced a marked and sustained rise in the sugar content of the animal's blood. This was not shown by any of the four commercial preparations. One of these, in fact, showed an immediate and distinct decrease in the blood sugar.

Heat Production on Diets Deficient in Vitamin B.—Two outstanding facts emerging from the work done by Farmer and Redenbaugh in this field are these: During starvation, heat production decreased markedly. The response to food was rapid, the heat production returning to normal in twenty-four hours.

Irritability of Men and Women.—The extent of the knee jerk of sixty-three men and seventy women was compared by Williams. Assuming that the knee jerk is an index to irritability, the data show that women are perceptibly more irritable than men.

Effect of Ultraviolet Ray on Tetany.—Swingle and Rhinhold are of the opinion that the amelioration of tetany symptoms by ultraviolet rays and prolongation of life of parathyroidectomized dogs is probably due to the effect of such irradiation in increasing the absorption and retention of the small amounts of calcium obtained from the food, so that its elimination from the blood and tissues is less rapid than in nonirradiated parathyroidectomized dogs.

Value of Parathyroid Extract in Tetania Parathyreopriva.—Comparatively pure extracts of the active principles of ox parathyroids for the relief of tetania parathyreopriva have been prepared by Fisher and Larson. They found that parathyroidectomized dogs can be kept for a period of at least seven months on a meat diet, provided the acute attacks of tetany are controlled with extracts of parathyroid glands. The acute attacks of tetany usually become less severe and disappear entirely in from one to three weeks when the animals are treated with parathyroid extracts, after which further injections are not necessary, at least during a period of seven months.

Annals of Medical History, New York

7: 319-450 (Dec.) 1925

Max Von Pettenkofer's Theory of Etiology of Cholera, Typhoid Fever and Other Intestinal Diseases. E. E. Hume, Washington, D. C.—p. 319.
Sir Dominic Corrigan. R. T. Williamson, London.—p. 354.
Life and Works of Gilles De Corbeil. S. D'Irsay, New Haven, Conn. —p. 362.
Carl Rokitansky, the Pathologist. F. R. Menne, Portland, Ore.—p. 379.
Power of Sympathy. W. G. A. Robertson, Edinburgh, Scotland.—p. 387.
Crawford Williamson Long. F. L. Taylor, Athens, Ga.—p. 394.
Medical Wisdom of Mark Twain. L. J. Bragman, Syracuse.—p. 425.

Archives of Otolaryngology, Chicago

2: 529-630 (Dec.) 1925

*Fundamentals of Bone Conduction. E. P. Fowler, New York.—p. 529.
*Otomycosis Treated with Potassium Iodide. J. J. Chisolm and A. C. Sutton, Baltimore.—p. 543.
*Concomitance of Sinusitis and Bronchiectasis. E. Raffo, Lima, Peru.—p. 557.
*Pigmented Hairy Nevus of Nose; Pigmented Hairy and Warty Nevus of Cheek and Lip. J. N. Roy, Montreal.—p. 565.
Tumor of Right Internal Auditory Meatus: Involvement of Gasserian Ganglion and Pons. E. W. Hagens, Chicago.—p. 574.
*New Procedure for Postoperative Care of Laryngostomy. H. L. Baum, Denver.—p. 581.
*Tic Dolourex and Trigeminal Neuralgia Relieved by Treatment of *Nasal (Sphenopalatine) Ganglion. S. L. Ruskin, New York.—p. 584.*
Present Status of Knowledge of Allergy in Relationship to Otolaryngology. W. W. Duke, Kansas City, Mo.—p. 587.
Tuberculosis of Upper Respiratory Tract. G. B. Wood, Philadelphia. —p. 607.

Fundamentals of Bone Conduction.—A simple rational method of measuring both air conduction and bone conduction is described by Fowler. It is based on making the decrement in intensity of tuning fork tone the same for air as for bone conduction (in other words, the damping is made the same for both). This is accomplished by continuing to alternate the placement of the fork between the mastoid and the meatus until the sound ceases to be heard by both. Advantages and variations of the method are noted. Tuning forks should be calibrated so that all tests may be in the same units of measure.

Potassium Iodide in Otomycosis.—Chisolm and Sutton recommend the use of potassium iodide, orally, in cases of otomycosis, beginning with 5 grains (0.3 Gm.) three times a day, and increasing gradually to 15 grains (10 Gm.) or more, three times a day. This course is continued until the symptoms are relieved and the ear is free from discharge. Locally, they prefer a 2 per cent solution of salicylic acid in 70 per cent alcohol, or a 1 per cent solution of mercurochrome-220 soluble. It is important that no water enter the canal at any time, and that no oils or ointments be used in the ear.

Concomitance of Sinusitis and Bronchiectasis.—In Raffo's opinion, the examination of a patient suffering from chronic bronchitis is never complete without a careful investigation of the upper respiratory tract. Of the eight cases cited, many patients did not give definite enough symptoms to arouse suspicion, but a careful investigation showed the existence of sinusitis. Most of the patients complained of coughs dating back to some one of these diseases in childhood; hence Raffo believes that the sinus infection occurred at this time, but that the symptoms of sinusitis were overshadowed by the general systemic condition. In cases of bronchiectasis accompanied by sinusitis, the sinuses as well as the lung condition should be given the proper treatment.

Treatment of Pigmented Nevus.—The most rational treatment of pigmented nevi of the face, Roy says, consists first of all in making repeated extirpations of fragments of the skin. When the integuments have attained the maximum of their extension without producing traction on the surrounding parts, it is necessary to have recourse to grafting, preference being given to the dermo-epidermic graft.

Postoperative Care of Laryngostomy.—The object of the device presented by Baum is to prevent contraction of the laryngostomy wound and to maintain a good exposure over a long period of time, as long a period as may be necessary for the proper dilation of the stenosis. The device consists of the addition of a post to the ordinary laryngostomy tube, or, preferably, to the Tucker tube. This post is calculated to fit the laryngostomy incision snugly, and is so designed that the upper end, or saddle, extends from the rubber tube inside the larynx to the skin, this saddle being wide enough to give the necessary "spread" to the upper end of the incision. The tube itself does the same for the lower end, leaving the edges free between these points. Thus, the epithelium grows in and rapidly covers the raw edges of the wound without the necessity, in most instances, of drawing the skin and mucosa together.

Alcohol Injection of Nasal Ganglion in Trigeminal Neuralgia.—Ruskin reports three cases of trigeminal neuralgia in which injection with alcohol of the nasal ganglion through the palatomaxillary canal route gave relief. Although one injection usually produces a marked improvement, and in some cases complete relief, most patients require two or three injections. Alcohol injection is necessarily a temporary affair f the diseased area causing the neuralgia is permitted to main.

Arkansas Medical Society Journal, Little Rock

22: 151-173 (Dec.) 1925

Faults Responsible for Errors in Diagnosis. S. C. Fulmer, Little Rock. —p. 151.

Who's to Blame for Adverse Medical Legislation? W. H. Abington, Beebe.—p. 153.

Formol-Gel Test Applied to Granuloma Inguinale. H. H. Howze, Little Rock.—p. 159.

Boston Medical and Surgical Journal

193: 1181-1230 (Dec. 24) 1925

New Developments in Public Health. E. R. Kelley, Boston.—p. 1181.

Maternity, Infancy and Early Childhood Clinics or Conferences in Relation to Family Physician. M. Champion, Boston.—p. 1182.

What and Why is Health Examinations? G. H. Bigelow, Boston.—p. 1184.

*Therapeutic Value of Lumbar Puncture in Treatment of Cranial and Intracranial Injury. D. Munro, Boston.—p. 1187.

Acute Intestinal Obstruction in Private Practice. G. A. Moore.—p. 1190.

Torsion of Duodenum from Postoperative and Inflammatory Adhesions. D. Carleton.—p. 1194.

*Cardiorrhaphy. J. H. Long.—p. 1197.

Significance of Acute Abdominal Pain. R. H. Miller.—p. 1201.

Value of Lumbar Puncture in Cranial Injury.—Munro shows that the immediate mortality following all types of head injury, as seen on a surgical service during twelve consecutive months, is lower following treatment by lumbar puncture than by any other method. The greatest difference in comparative group percentages is 12 per cent; the smallest difference is 4 per cent. Ninety-six lumbar punctures were safely done in sixty cases. Necropsies in all but one of the fatal cases proved that the lumbar puncture had no relation to the cause of death. In the one case in which no necropsy was done, this was also clinically true. Comparative data obtained at lumbar puncture in the fatal and nonfatal cases treated only by this method show that the average intracranial pressure is nearly two and one-half times higher in the fatal cases. Regardless of the method of treatment used, the poorest prognosis follows contusion of the brain complicated by fracture of any part of the skull.

Cardiorrhaphy.—In one of Long's cases of stab wound of the heart, there was a hole in the anterolateral wall of the left auricle. There was no hemopericardium, however, because the opening was plugged by suction into it of the auricular appendix. In the second case there was a wound in the muscle of the left ventricle, which admitted the tip of the finger into the muscle substance but did not penetrate the cavity. Both patients survived the reparative operation and left the hospital in excellent condition.

Florida Medical Association Journal, St. Augustine and Jacksonville

12: 146-176 (Dec.) 1925

Organized Medicine in Florida. J. S. McEwan, Orlando.—p. 146.

Hemorrhage in New-Born. N. L. Spengler, Tampa.—p. 148.

Gas Bacillus Infections. H. D. Van Schaick, Jacksonville.—p. 152.

Need and Advantage of Mental Hygiene Movement. G. H. Benton Miami.—p. 155.

Diseases of Thyroid. E. Jelks, Jacksonville.—p. 161.

Looking Backward Over Fifty Years of Health Work in Florida. J. Y Porter.—p. 164.

Progressive Muscular Atrophy. F. Richards, Jacksonville.—p. 167.

Georgia Medical Association Journal, Atlanta

14: 484-525 (Dec.) 1925

Intracranial Injuries in New-Born. C. H. Richardson, Jr., Macon.—p. 484.

Choice of Anesthesia in Surgical Operations of Rectum. M. C. Pruitt, Atlanta.—p. 490.

Johns Hopkins Hospital Bulletin, Baltimore

37: 369-440 (Dec.) 1925

Surgical Aspects of Sympathetic Nervous System in Work of René Leriche. W. Penfield, New York.—p. 369.

*Postanesthetic Hypoglycemia: Etiology of Recurrent Vomiting. H. Josephs, Baltimore.—p. 376.

*Experimental Study of Amyloid Formation. H. Smetana, Baltimore. —p. 383.

Effect of Parathyroid Extract and Liver Extract on Hypertension Produced by Guanidine Compounds. R. H. Major and C. R. Buikstra, Kansas City, Kan.—p. 392.

*Gonorrheal Endocervicitis Treated with Strong Solutions of Mercurochrome. L. Brady, Baltimore.—p. 400.

Preparation of Hematoporphyrin from Carbon Monoxide Hemoglobin. H. Smetana, Baltimore.—p. 408.

*Bacillus of Paratyphoid Group. H. A. McCordock, Baltimore.—p. 412.

Effect of Carbon Dioxide on Cells in Tissue Cultures. J. T. Bauer, Baltimore.—p. 420.

Postanesthetic Hypoglycemia.—The curve of blood sugar, the excretion of acetone bodies, and the respiratory quotients have been studied by Josephs in a series of children who had undergone short periods of anesthesia. Hypoglycemia of moderate degree was found to occur with great regularity from eighteen to twenty-four hours after the anesthesia. This hypoglycemia was preceded usually, but not invariably, by an increase in the respiratory quotient, and was accompanied by an increased excretion of acetone bodies in the urine. These changes were greater than could be accounted for by starvation. The bearing of these results on the etiology of recurrent vomiting and the allied condition of "postanesthetic acidosis" is discussed.

Amyloid Formation.—Amyloid is interpreted by Smetana as the result of coagulation of the protoplasmic albumin with a swelling of the protoplasm of the cells of the vessel wall; that is, the smooth muscle and especially the connective tissue cells and fibrils, the coagulation being aided by the acid formed by the bacteria. In addition, the protoplasm of red corpuscles and other cells absorbed in the vessel wall and connective tissue, so far as it is capable of swelling, may take part in this "schwellungsnekrose." Theoretically, it is undoubtedly to be assumed that blood and lymph plasma may take part in this coagulation and swelling under the influence of the same nonspecific bacterial endotoxin, but no evidence in this direction could be obtained from animal experiments.

Mercurochrome in Gonorrheal Endocervicitis.—Brady does not feel justified in claiming any superiority of mercurochrome treatment over other methods of treatment of endocervicitis. However, strong solutions of mercurochrome have been effective in cases that have been markedly resistant to other drugs. A real cure resulted in all cases of gonorrheal endocervicitis uncomplicated by salpingitis or bartholinitis. Two distinct advantages of this method are the simplicity of technic and the minimal danger of a resulting salpingitis.

New Bacillus of Paratyphoid Group.—A bacillus of the paratyphoid group, apparently unencountered by previous investigators, is described by McCordock. Culturally it is similar to the other paratyphoids but can be differentiated from them by its low avidity for rhamnose, failing to ferment this sugar in twenty-four hours, and the absence, or only slight production, of gas in all carbohydrates except xylose. Agglutination tests leave no doubt concerning its individuality, and agglutinin absorptions sharply separate it from the other paratyphoid types. The organism is pathogenic for mice, rabbits, guinea-pigs, but especially for rats. For the bacillus here described McCordock proposes the name *Salmonella muriotitis.*

Kansas Medical Society Journal, Topeka

25: 395-426 (Dec.) 1925

Diagnosis of Cardiac Arrhythmias. W. R. Dillingham, Salina.—p. 395.
Sinusitis in Children. L. B. Spake, Kansas City.—p. 397.
Diagnosis of Early Phthisis. L. L. Bresette, Kansas City.—p. 398.
Study of Gaits. G. W. Robinson, Kansas City.—p. 402.
Paretic Gold Curve in Poliomyelitis. K. A. Menninger, Topeka.—p. 411.

Kentucky Medical Journal, Bowling Green

23: 537-580 (Dec.) 1925

Use and Abuse of Atropine in Eyes. W. A. Weldon, Glasgow.—p. 541.
Trichobezar: Case. A. H. Barkley, Lexington.—p. 543.
Social Hygiene for Adolescence Between Ages of Twelve and Sixteen. R. C. Falconer, Lexington.—p. 544.
Neurologic Diseases of Childhood. W. F. Stucky, Jeffersontown.—p. 546.
Endocrinology in Children. J. W. Bruce, Louisville.—p. 548.
Indication for Tonsillectomy. C. T. Wolfe, Louisville.—p. 549.
Diagnosis of Surgical Conditions in Children. R. L. Ireland, Louisville. —p. 551.
Pediatrics. M. Flexner, Louisville.—p. 553.
Metastatic Ophthalmia: Two Cases. A. O. Pfingst, Louisville.—p. 559.
Conjunctivitis: Classification, Causes and Morbid Anatomy. C. Beck, Louisville.—p. 560.
Id.: Symptoms and Prognosis. W. Dean, Louisville.—p. 564.
Id.: Ophthalmia Neonatorum and Vernal Conjunctivitis. J. Heitzer, Louisville.—p. 566.
Id.: Corneal Complications. G. C. Hall, Louisville.—p. 568.
Id.: Treatment. A. L. Bass, Louisville.—p. 570.

Maine Medical Association Journal, Portland

16: 217-232 (Dec.) 1925

Hospital and Community. G. Stone, Bangor.—p. 217.
Urography. C. N. Peters, Portland.—p. 223.

Medicine, Baltimore

4: 345-420 (Nov.) 1925

Anoxemia in Lobar Pneumonia. C. Lundsgaard, Copenhagen, Denmark. —p. 345.
Immunization Against Pneumonia. R. L. Cecil, New York.—p. 395.

Military Surgeon, Washington, D. C.

57: 561-672 (Dec.) 1925

Treatment of War Wounds of Kidney and Bladder in Armies in Field. Maisonnet, Paris.—p. 561.
Means and Policies Which Will Best Enable This Association to Increase Its Membership and Accomplish Its Patriotic Objects as Stated in Its Constitution. E. Blackshear.—p. 566.
Chief Surgeon's Office and General Staff in A. E. F. J. R. Kean. —p. 577.
Fractures of Humerus Treated by Suspension and Traction. H. C. W. S. DeBrun.—p. 599.
Army Veterinary School. W. P. Hill.—p. 604.
Vienna Institute for History of Medicine. A. N. Tasker.—p. 608.
Gorgas Memorial Institute of Tropical and Preventive Medicine. F. H. Martin.—p. 610.
Appreciation of 1925 Field Officers' Course for National Guard and Reserve Officers Given at Carlisle Medical Field Service School. H. W. Cattell.—p. 614.
Status of National Guard. E. Colby.—p. 623.

Northwest Medicine, Seattle

24: 593-646 (Dec.) 1925

Acute Obstruction of Coronary Artery. J. B. Herrick, Chicago.—p. 593.
*Cardiac Infarction. H. A. Christian, Boston.—p. 601.
*Pathology of Coronary Artery Disease. R. L. Benson and W. C. Hunter, Portland, Ore.—p. 606.
Cardiac Factors in Surgical Indications. G. H. Anderson, Spokane, Wash.—p. 610.
Experiences with Local Anesthesia in Goiter Surgery. C. C. Tiffin, Seattle.—p. 614.
Thyroidectomy Under Local Anesthesia. A. S. Jackson, Madison, Wis. —p. 617.
Intrathoracic Goiter: Case. B. T. King, Seattle.—p. 619.
*Glioma of Brain: Cases. G. W. Swift, Seattle.—p. 622.
Carcinomatous Ulcers of Stomach. C. E. Hagyard, Seattle.—p. 625.
Minor Surgery. J. T. Mason, Seattle.—p. 628.
Chronic Suppurative Nephritis. A. H. Peacock, Seattle.—p. 630.
Inguinal Hernia. R. D. Forbes, Seattle.—p. 631.
Uterine Fibroid. R. J. McCurdy, Seattle.—p. 633.

Cardiac Infarction.—Most important in the history of cardiac infarction, Christian says, is the description of the symptoms associated with the occurrence of the infarction. There are two groups of patients: a large group in which pain predominates over all other symptoms, and a small group without pain, having collapse, a sense of impending dissolution, and usually dyspnea, as the chief symptoms. The group with pain is more easily diagnosed because the pain is of a severe, persisting type and at once recognized by the patient as something entirely different from any pain of his past experiences, even though he has had typical attacks of anginal pain. This pain most often is located behind the sternum, especially behind its upper portion. At times it is entirely below the diaphragm. It is almost always a deep seated pain. Frequently it radiates, most often down the left arm, next along the left side of the neck. Gastric symptoms are commonly seen, such as loss of appetite, nausea, vomiting. Dyspnea is a prominent symptom in nearly every patient with cardiac infarction. Of physical signs, perhaps the more constant and important one is evidence of a weak cardiac action with not infrequent arrhythmia. Crackling râles at the base of the lungs are nearly always present and usually persist, except in patients that are recovering, and in these they may be heard for a long time. The abdomen may show distention. The liver often is tender and slightly enlarged. Soon after the infarction occurs, slight fever and slight leukocytosis are almost invariably found. Treatment consists in easing the terrible pain and protecting the heart from the effects of strain. For pain, Christian finds that there is nothing so effective as morphine given promptly and repeatedly until one gets its full effects. Nitroglycerin is of no effect on this pain, and with the lowered blood pressure is contraindicated. Absolute rest in the reclining posture is essential. Christian feels that cardiac infarction is a condition of frequent enough occurrence to be of importance to the practicing physician. In a little less than ten years he has had forty-five cases, and twenty-five cases that recovered from the attack. Among the fatal cases, twenty-eight were proved by necropsy.

Pathology of Coronary Artery Disease.—Two hundred instances of advanced coronary obstruction were selected by Benson and Hunter from a total of 1,750 necropsies. In a total of 145 hearts, emboli or fresh thrombi or old thrombi or combinations of these were demonstrated. In ninety-four hearts, fresh thrombi were present in one or more coronary arteries or their branches. Only forty of the ninety-four contained either definite infarcts or cardiac aneurysms, although a few more contained patchy necroses. Thus, fifty-four had fresh coronary thrombosis without infarction or aneurysm, and it is probable that most of these represent death in the first attack before an anatomic infarct had had time to form. In seventy hearts, the coronary arteries contained either old obliterative or recanalized thrombi, or types of obliterative endarteritis closely simulating these. Aneurysms of the left ventricle occurred in nineteen, and healed infarcts without formation of aneurysm in eleven, cases. Embolism contributed fourteen instances of coronary occlusion, nine of which resulted in infarction. The other five comprise cases which resulted fatally before the anatomic evidences of infarction could manifest themselves. The total number of acute infarcts collected is forty-six; healed infarcts, eleven, and cardiac aneurysms, nineteen; total (after deduction for four duplications), seventy-two infarcts and aneurysms. Definite indisputable aortic syphilis was present in thirty-five, or 17.5 per cent, of the 200. Among the thirty-five hearts accompanied by a definite syphilitic aorta, ten manifested acute coronary thrombosis, five old coronary occlusions, and six contained infarcts; but the number of such cases was not determined. Rupture of the heart, always of the left ventricle, occurred in fourteen cases, exactly one half of which fall in the definitely syphilitic class. One rupture occurred through the septum interventriculorum into the right ventricle; the others, into the pericardial sac. Acute infarcts caused seven deaths; syphilitic myocarditis, three; rupture of a syphilitic coronary with resulting myocardial apoplexy, and rupture of dissecting coronary aneurysm, one death each.

Glioma of Brain.—Swift reports a case of glioma of the optic thalamus and right frontal lobe. The thalamic syndrome was not present in this case except a crossed plantar irritation. Mental disturbances of the higher centers existed and were due to a tumor in the right frontal lobe, and sensory disturbances were due to the tumor of the right optic thalamus. The absence of ocular findings, especially visual field changes, was significant in this case. Death was due to hemorrhage into the third ventricle. Two other cases of glioma of the optic thalamus are also reported.

Occupational Therapy and Rehabilitation, Baltimore

4: 407-502 (Dec.) 1925

Hospital Records: What May Medical Officer Expect from Occupational Therapist Dealing with Mental Patients? W. J. Tiffany, New York. —p. 417.
Must Prerequisites for Training as Occupational Therapists for Mental and Nervous Work be High? L. J. Haas, New York.—p. 427.
Hand Work in Occupational Therapy for Insane. M. A. Bliss, St. Louis. —p. 435.
Economic Studies of Craft. W. R. Dunton, Jr., Castonville, Md.—p. 441.

Tennessee State Medical Association Journal, Nashville

18: 185-215 (Nov.) 1925

Pellagra. W. T. De Sautelle, Knoxville.—p. 185.
Gun Shot and Stab Wounds of Abdomen; Twenty-Eight Cases; Immediate End-Results. M. B. Davis, Nashville.—p. 190.
Fractures of Elbow. H. Cox, Nashville.—p. 194.
Latent Syphilis and Diagnostic Problems. L. Motley, Dyersburg.—p. 197.
Williamson County Epidemic of Anterior Poliomyelitis. K. S. Howlett, Franklin.—p. 201.

Texas State Journal of Medicine, Fort Worth

21: 459-520 (Dec.) 1925

Teaching and Control of Tuberculous Patient. W. H. Ross, Houston. —p. 472.
Present Status of Tuberculosis Control in United States. A. J. Strawson, New York.—p. 476.
Study of Apparently Healthy Children of School Age Who Are Highly Sensitized to Old Tuberculin. H. Leigh, El Paso.—p. 480.
Stamping out Tuberculosis from Live Stock. W. A. King, San Antonio. —p. 485.
Tuberculous Inflammation of Tracheal and Bronchial Lymph Nodes. H. Hartman, Galveston.—p. 488.
Tuberculous Laryngitis. D. V. Myers, Dallas.—p. 490.
Modern Obstetrics. I. T. Cutter, San Antonio.—p. 494.
Rational Surgery of Cancer; Handicaps and Limitations. A. C. Scott, Temple.—p. 499.
Traumatism of Head and Brain in Civil Practice. G. M. Hackler, Dallas.—p. 501.
Prostatectomy; Forty-Two Cases. F. S. Schoonover, Jr., Fort Worth. —p. 505.
Intestinal Obstruction. H. Smith, Marlin.—p. 507.

West Virginia Medical Journal, Huntington

21: 617-672 (Dec.) 1925

Intracranial Hemorrhage of New-Born. P. F. Barbour, Louisville, Ky. —p. 617.
Hypertension: Treatment. G. H. Barksdale, Charleston.—p. 622.
Value of Prostatectomy Under Spinal Anesthesia. A. G. Rytina, Bluefield.—p. 630.
Treatment of Pulmonary Tuberculosis in Home. G. R. Maxwell, Morgantown.—p. 635.
Cancer of Colon. F. R. Rankin.—p. 637.
Management of Typhoid. J. H. Willson, Hamlet.—p. 644.

Wisconsin Medical Journal, Milwaukee

24: 351-446 (Dec.) 1925

Origin and Progress of Medicine to Beginning of Twentieth Century. W. Cunningham, Platteville.—p. 351.
Health Progress in Wisconsin Cities. S. J. Crumbine, New York.— p. 360.
Health of School Child. A. M. Carr, Madison.—p. 369.

U. S. Naval Medical Bulletin, Washington, D. C.

23: 445-564 (Dec.) 1925

U. S. Public Health Service in War Time. A. M. Stimson.—p. 445.
*Study of Dysentery in Haiti. P. F. Dickens.—p. 452.
Inflammation of Bone. H. W. Gillen.—p. 465.
Red Cell Sedimentation Test. O. R. Nees.—p. 471.
Vienna Clinics. C. W. Lane.—p. 477.
Morale and Medical Care of Dependents. L. H. Williams.—p. 483.
*Coronary Occlusion: Cases. G. F. Clark.—p. 487.
Deep Therapy Treatment of Intrathoracic Lymphosarcoma: Two Cases. J. W. Smith.—p. 491.
Liver Abscess: Five Cases. A. L. Lindall.—p. 494.
Paroxysmal Hemoglobinuria: Case. W. H. Connor.—p. 501.
Osteitis Deformans: Two Cases. H. E. List.—p. 504.

Dysentery in Haiti.—In Haiti, all cases of dysentery are treated successfully by the U. S. Navy surgeons by the intramuscular or subcutaneous administration of a polyvalent serum, plus saline solutions and a nutritious diet in which is included glucose in solution. The majority of cases of dysentery in Haiti are of bacillary origin (Shiga type). Arthritis is the most common complication encountered, and occurred approximately as often in those cases treated with saline solutions alone as in the cases in which serum was given. Neuritis, with muscular atrophy, occurred in a few cases; paralysis of both legs, in one case. It seems that when the destruction of the mucosa reaches a certain extent, no amount of treatment will cure, as the patient is unable to assimilate sufficient food to maintain life.

Coronary Artery Occlusion.—Two of Clark's patients had attacks of pain in the upper thorax, radiating down the arms; temperature elevation for several days after their attacks; leukocytosis with increase of polymorphonuclears, and decided fall in blood pressure within from forty-eight to seventy-two hours of the attack. Electrocardiograms showed inverted or diphasic T waves in two of the three leads.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

14: 381-466 (Dec. 16) 1925

Microfilariae in Tanganyika Territory. J. F. Corson.—p. 381.
*Spring Relapses in Benign Tertian Malaria. A. Patrick.—p. 387.
*Antirabic Procedure in Palestine: Decentralization of Treatment. G. Stuart and K. S. Krikorian.—p. 391.
*Erythrocytosis in Artificially Inoculated Malaria. G. de M. Rudolf and J. C. Ramsay.—p. 419.
Effect of Ancylostome, Ascaris and Trichuris Infections on Health of West African Native. R. M. Gordon.—p. 429.
New Variety of Anopheles Marshalli from Sierra Leone. A. M. Evans. —p. 461.

Spring Relapses in Tertian Malaria.—Patrick calls attention to two groups of patients. The first group had been transferred to a convalescent camp after recovery from attacks of benign tertian malaria and showed an extraordinary tendency to have relapses in the early spring, although the weather was genial. The second group consisted of patients whom Patrick had treated in the late autumn for severe subtertian malaria, who remained well for two months or longer, and then relapsed about February, but this time with a benign tertian infection.

Phenolized Antirabic Vaccine.—Stuart and Krikorian have found phenolized antirabic vaccine to be an efficient and safe treatment for persons bitten by rabid animals. It can be distributed to any number of treatment centers, where as good results attend its use as at the place of its production. Better results have followed the employment of a dosage of 5 cc. daily of a 1 per cent emulsion, over fourteen days, than of 2 cc. of the same emulsion over the same period. Bitten persons can be treated at or near their own homes and thus —the all important consideration of immediate treatment aside—they are spared the expenses connected with travel to and residence in a strange town.

Erythrocytosis in Artificially Inoculated Malaria.—In four cases of general paralysis inoculated with benign tertian malaria, Rudolf and Ramsay found an erythrocytosis to precede the anemia. The erythrocytosis occurred whether the inoculation was performed by means of mosquitoes or by subcutaneous injection of malarial blood. It was independent of the sex of the patient and of a history of previous malaria. The succeeding anemia occurred or persisted for several days after the cessation of the fever. Regeneration of the red cells was complete within three weeks, although the degree of anemia was very different in the four cases. An erythrocytosis was found to follow the anemia. The hemoglobin in two cases varied with the number of red cells, but regeneration was less rapid. The color index was, as a rule, of the secondary anemia type. At certain periods it became as low as 0.5. In two cases the number of parasites was found to vary approximately with the degree of fever, although the number of parasites was very different.

British Journal of Radiology, London

30: 451-500 (Dec.) 1925

Roentgen-Ray Studies on Physiology and Pathology of Tracheobronchial Tree. S. A. Reinberg.—p. 451.
Pleural Rings. S. Melville.—p. 456.
Peribronchial Phthisis. A. C. Jordan.—p. 460.
Effect of Roentgen Rays on Blood Vessels and Capillaries. O. David. —p. 462.
Temporary Relaxation of Diaphragm. W. Altschul.—p. 465.
Aneurysm of Internal Carotid Artery and Tumors at Base of Brain. M. C. Sosman.—p. 468.
Technic of Intraperitoneal Irradiation of Cancer of Cervix Uteri. F. Daels and P. de Backer.—p. 472.
Experimental Provocation of Tumors by Means of Radium. F. Daels. —p. 474.
Eighty-Five Inoperable Cases of Carcinoma of Cervix, Treated with Radium. M. Donaldson.—p. 477.
Efficient and Economical Roentgen-Ray Filtration. A. W. Erskine. —p. 479.
Roentgenology in Veterinary Practice. J. Debicki.—p. 482.
Roentgen rays and Problem of Races. J. Debicki.—p. 486.

Bristol Medico-Chirurgical Journal

42: 201-248 (Winter) 1925

Continuity and Change. T. Carwardine.—p. 201.
Some Problems in Pulmonary Disease: Radiography. H. H. Carleton. —p. 211.
Practical Importance of Posture in Physical Examination of Heart; Stethoscopes. W. Gordon.—p. 224.

Ceylon Journal of Science, Colombo

1: 107-154 (Nov. 18) 1925

*Treatment of Leprosy. L. F. Hirst.—p. 107.
Value of Hookworm Control of Ceylon Estates. J. F. Docherty.—p. 111.
*Treatment of Hookworm and Ascaris Infections with Carbon Tetrachloride and Oil of Chenopodium. W. C. Sweet.—p. 121.
Hookworm Reinfection: Analysis of 8,239 Ceylon Egg Counts. W. C. Sweet.—p. 129.
Case of Mass Infestation with Cysticercus Cellulosae. L. Nicholls.—p. 141.
Effects of Nematode Larvae in Eye. H. P. Joseph.—p. 143.
Nematode Larva Removed from Eye. L. Nicholls.—p. 145.
Verminous Ophthalmia of Horse in Ceylon. L. Nicholls and M. Crawford. —p. 147.
*Incidence of Pulmonary Tuberculosis in Colombo as Indicated by Examination of Sputum Found in Public Places. R. De Silva.—p. 151.
Vibrios in Human Excrement. K. Vallipuram and W. R. de Silva.—p. 153.

Treatment of Leprosy.—Hirst suggests an explanation for the activity of the chaulmoogra oils in leprosy which he believes *may point the way to the possibility of improved* results. He says: "May it not be that the active principle of the hydnocarpus oils is a product of high energy chemistry, the energy being derived from intense solar radiation of the tropical forests where these trees are grown; and that the therapeutically inactive oils have lost their increment of energy?"

Treatment of Hookworm Infestation.—The most efficient treatment tested by Sweet for removing hookworms was a combination of carbon tetrachloride and oil of chenopodium, in a ratio of 3:1, given in a solution of magnesium sulphate for a purge. This combination was also highly efficient in removing ascarids, although the giving of the salts two hours after the anthelmintic increased the efficiency in removing these worms. In a country where infection with *Ascaris lumbricoides* is widespread, the combination treatment, given in the purge of magnesium sulphate, will be a better routine measure than either of the anthelmintics given alone.

Pulmonary Tuberculosis in Colombo.—One hundred and eighty-four specimens of sputum collected from the floors of railway carriages and buildings, platforms, refreshment rooms and streets were examined by De Silva for tubercle bacilli. Seven of these sputums showed the presence of acid-fast organisms morphologically indistinguishable from *B. tuberculosis.*

Indian Journal of Medical Research, Calcutta

13: 205-440 (Oct.) 1925

Pharmacologic Action and Therapeutic Properties of Adhatoda Vasica (Basak). R. N. Chopra and S. Ghosh.—p. 205.
Helminthic Parasites of Cats in Calcutta and Relation of Cats to Human Helminthic Infections. A. C. Chandler.—p. 213.
Bacteriologic and Laboratory Technic. XII. The Microscope. W. F. Harvey.—p. 229.
Intra-Arterial Anesthesia in Dogs. J. P. Arland.—p. 263.
Relative Number of Male and Female Crescents in Malignant Tertian Malaria. R. B. Lal.—p. 265.
*Blood Sugar in Bengalese; I. U. N. Brahmachari and P. Bikash.—p. 271.
Comparative Studies of Antenpae of Some of Higher Diptera. W. S. Patton and E. MacGill.—p. 275.
Calcium Cyanide Fumigation. S. N. Gore.—p. 287.
Life History of Hookworm in Nature. V. T. Korke.—p. 301.
*Effects of Quinine on Blood Sugar. T. A. Hughes.—p. 321.
Mechanism of Quinine Hemoglobinuria in Man. I. U. N. Brahmachari and P. B. Sen.—p. 337.
Two Malarial Surveys Connected with Industrial Projects in Certain Very Highly Malarious Localities in India. I. At Assam. S. R. Christophers.—p. 343.
Id. II. Malaria, Blackwater Fever and Ancylostomiasis in Singhbhum. S. R. Christophers.—p. 363.
Epidemiology of Hookworm and Other Helminth Infections on Assam Tea Estates. A. C. Chandler.—p. 407.
Epidemiology of Cholera. A. J. H. Russell.—p. 427.

Blood Sugar in Bengalese.—Defective sugar tolerance was noted by Brahmachari and Sen among many medical students in Bengal living on a dietary containing a large amount of carbohydrates. It is held that these students are potentially diabetic.

Effects of Quinine on Blood Sugar.—The fact that quinine administered to rabbits in large doses produces a rise in blood sugar has been confirmed by Hughes. The evidence adduced seems to show that quinine influences the level of the circulating glucose in two ways, one by stimulating the sympathetic *system and so probably causing a secretion of epinephrine,* leading to hyperglycemia, and the other by causing a liberation of insulin with resultant hypoglycemia. The experiments recorded here give no clue as to the method by which quinine may affect the output of insulin.

Journal of Tropical Medicine and Hygiene, London

28: 437-452 (Dec. 15) 1925

Pathology of Clonorchis Infection of Pancreas. H. B. Newham.—p. 437.
Modification Produced by Radium on Emulsion of Adenocarcinoma of Mouse and Transformation Into Curative Vaccine. G. Tizzoni, E. Cetanni and G. de Angelis.—p. 438.
Removable Causes of Unemployment and Crime. F. G. Cawston.—p. 441.

Lancet, London

2: 1265-1316 (Dec. 19) 1925

*Efficiency of Heart: Measurement. Y. Henderson.—p. 1265.
*Ischemic Necrosis of Heart Muscle. A. G. Gibson.—p. 1270.
Lupus of Nose and Upper Air Passages Treated by Radium. H. M. Wharry and O. Teichman.—p. 1275.
*Blood Crisis. A. E. Somerford.—p. 1280.
Estimation of Small Quantities of Bismuth in Urine. C. A. Hill. —p. 1281.
Cystoscope Designed for Application of Diathermy to Bladder Tumors. F. Kidd.—p.1282.
Diagnosis of Early Nervous Disease. M. A. Blandy.—p. 1314.

Efficiency of Heart.—Henderson closes his lecture with this statement: The only adequate expression of the efficiency of the heart is one based on accurate measurement of the volume of blood that the heart pumps and on the amount of oxygen consumed by the body. The relation between these two functions determines the arteriovenous oxygen difference, and thus determines the amount, and particularly the pressure of the oxygen supply to the working tissues of the body. In vigorous mammals of all sizes the arteriovenous oxygen difference during bodily rest is about 3 or 4 per cent by volume. The volume of the circulation in vigorous men and animals at rest is about 3 or 4 liters of blood each minute per square meter of skin surface. The stroke volume for animals and men of corresponding activity is a function of their body weights, not their surfaces. For all vigorous mammals, including man, the stroke index during rest is about 1.4 to 1.8 cc. for each kilogram per beat. The pulse rate is in general proportional to surface weight ratio and is thus in general an index of the intensity of respiratory metabolism. The mechanical conditions of the heart's activity and its own behavior make the right ventricle the meter of the circulation. The size of the stroke of this meter depends on the volume and pressure of the venous return. The venopressor mechanism is adjusted to act in relation to the intensity of the gaseous exchange of the tissues.

Ischemic Necrosis of Heart Muscle.—Forty-three cases of various clinical types of ischemic necrosis, taken from various sources, are analyzed by Gibson. Sudden death occurred in seven of these cases; angina was the dominant symptom in sixteen cases. In six cases, the symptoms were those of chronic heart failure. Abdominal symptoms and collapse were present in eight cases; four cases did not present any cardiac symptoms. One patient had fainting attacks and died suddenly, and in one case delirium and failing pulse were present for three days before death. In all these cases, blockage of an artery and consequent change in the heart wall was found at the necropsy.

Blood Crisis in Pernicious Anemia.—In the case cited by Somerford, the erythrocytes numbered about 1,500,000; the leukocytes varied between 3,600 and 6,800; the color index varied from 0.7 to 1.0. But there were also present normoblasts, 57 per cubic millimeter, and megaloblasts, 43 per cubic millimeter. The erythrocytes showed a marked degree of anisocytosis, poikilocytosis and macrocytosis. Punctate basophils and polychromatophils were not found, and blood platelets were apparently absent. In addition to normoblasts and megaloblasts, a more primitive cell, the erythroblast, was observed, a large cell with an intense basophil protoplasm and an oval or round structureless nucleus staining purple with Leishman's stain. Included in the counts among the megaloblasts were the metrocytes, which cells possess a megaloblastic nucleus with only a narrow fringe of polychromatophilic protoplasm. Cells with oak leaf nuclei were numerous. In some erythrocytes there were small round bodies which took up the nuclear stain and sometimes formed a complete ring surrounding the nucleus. These are known as Howell-Jolly bodies. The megaloblasts ran as high as 240 per cubic millimeter, and the normoblasts, 264.

Medical Journal of Australia, Sydney

2: 669-690 (Dec. 12) 1925

Gleanings from Midwifery Practice. A. A. Lendon.—p. 669.
Modern Developments in Obstetrics. R. F. Matters.—p. 672.
*Roentgenographic Examination of Base of Skull and Upper Cervical Vertebrae: Gargoyle Position. H. Flecker.—p. 678.
*Poliomyelo-Encephalitis Treated Successfully by Human Serum. R. Hylton.—p. 679.

Gargoyle Postion for Skull Roentgenoscopy.—Attention is drawn by Flecker to a special method of taking roentgenograms of the base of the skull and upper cervical vertebrae. The position in which these are made is referred to as the "gargoyle" position. The patient lies prone, with the arms fixed by grasping some objects at the sides. The upper part of the chest and front of the neck lie as close as possible to the plate. The chin is stretched upward as far as possible, thus placing it forward clear of the basi-occipital and basisphenoid regions, so that even the posterior edge of the vomer may be exposed behind the shadow of the symphysis menti. Incidentally, the mandibular rami are drawn well forward clear of the greater wings of the sphenoid.

Injection of Human Serum in Poliomyelo-Encephalitis.—Twenty-four hours after the injection of 15 cc. of serum from a patient convalescent from infantile paralysis into the spinal theca, and 5 cc. of human serum (group I) into the median basilic vein, Hylton's patient showed marked improvement. On the third day, 15 cc. of group III and 10 cc. of group II serum from a convalescent patient were injected intrathecally. On the fourteenth day, the boy was apparently quite normal in every way.

Medical Journal of South Africa, Johannesburg

21: 91-124 (Nov.) 1925

Lesions About Diaphragm. H. L. Heimann.—p. 93.
Diagnosis and Treatment of High Arterial Blood Pressure. O. K. Williamson.—p. 97.
Liver Abscess Cured by Emetine Injections. A. C. Abelheim.—p. 102.
Treatment of Asthma. N. Wall-Mesham.—p. 104.

Annales des Maladies Vénériennes, Paris

20: 801-896 (Nov.) 1925

*Complications of Arsphenamine Treatment. C. Laurent.—p. 801.
Value of Wassermann and Meinicke Tests. M. Kitchevatz.—p. 810.
Gonorrhea from Lesion in Woman's Axilla. J. Montpellier.—p. 815.
The Congenital Syphilis Conference. Paris, Oct. 5, 1925.—p. 819.

Six Years' Experience of Arsphenamine Treatment.—Laurent reports the by-effects from arsphenamine and neoarsphenamine in 27,000 intravenous injections (2,800 patients). Most of the numerous immediate complications were of benign character, without consequences. Three cases of erythrodermia, one of grave jaundice with polyneuritis; one of toxic polyneuritis in a tabetic, and one case of tardy convulsions with urticaria, all ended in recovery. Death occurred after one injection in one case; after the fifth injection in another. No satisfactory explanation of the fatal issue can be given.

Annales de Médecine, Paris

18: 247-326 (Oct.) 1925

*Digestion Hemoclasis Test. F. Widal and P. Abrami.—p. 247.
The Heredity Question in Tuberculosis. R. Debré and Lelong.—p. 256.
*Heart Lesions in Diphtheria. R. Lutembacher.—p. 278.
Diphtheria Bacilli Carriers. C. Zoeller and Manoussakis.—p. 294.
Rickets and Lack of Sunlight. F. Figueira.—p. 303.
Mediastinal Pleurisy. J. Morin.—p. 307.

The Digestion Hemoclasis Test and Vagotonia.—Widal and Abrami assert that a negative digestion hemoclasis test with hepatic insufficiency must be due to faulty technic. The changes in the leukocyte count may be overlooked if the count is not made every twenty minutes after the ingestion of the milk (200 Gm.). In 46 per cent of their 432 cases with a positive response, the hemoclastic crisis had run its complete course in less than an hour. This readily explains, they say, why the test was negative in 44 per cent of Piersol and Bockus' cases of liver insufficiency ("Liver Function Test," The Journal, Oct. 4, 1924, p. 1046). Piersol and Bockus made the leukocyte count one and two hours after the milk had been ingested. The hemoclastic crisis is usually past by that time. The test may also be negative with liver disease in which the greater part of the parenchyma is still intact; otherwise, Widal declares, it is always positive. Of twenty patients with a positive response to the test and unmistakable liver disease, in only three was there evidence of vagotonia. In twenty other patients supposedly free from liver disease, only one presented a positive digestion hemoclasis reaction, and this was in a hysteric subject with extreme vagotonia. Thus there does not seem to be any connection between vagotonia and derangement of the proteopexic function of the liver, which Widal and Abrami claim is one of the earliest signs of hepatic insufficiency, and which is revealed by the hemoclastic crisis.

Heart Disturbances in Experimental Diphtheria.—Lutembacher injected rabbits intravenously with diphtheria toxin. Microscopic examination showed changes of the myocardium in all. The lesions were similar to those from digitalis or quinidine poisoning. They were present even when there were no manifestations of paralysis. The heart lesions and arrhythmia in diphtheria seem to be due to a direct action of the toxin on the heart and its automatic centers.

Bulletin de l'Académie de Médecine, Paris

94: 1175-1254 (Dec. 15) 1925

Vaccination in France and Algeria in 1924. L. Camus.—p. 1189.
Leprosy in France. Jeanselme.—p. 1236. See Paris Letter, Jan. 2.
Aliens in Paris Hospitals. P. Remlinger.—p. 1240.
Idiopathic Fevers. P. Remlinger.—p. 1243.
Study of a Recent Measles Epidemic. R. Martial.—p. 1249.
Reducing Agents in the Organism. J. Roux.—p. 1251.

94: 1255-1282 (Dec. 22) 1925

Causes of Recrudescence of Alcoholism. Cazeneuve.—p. 1259.
Treatment of Keratoconus. Lagrange.—p. 1265.
Sporadic Scurvy. G. Delamare and S. Djémil.—p. 1274.
Stain Injected in Walls of Stomach or Intestine Reaches Lungs and Thoracic Glands. L. Binet and J. Loubry.—p. 1276.
*Stenosis of Esophagus in the Elderly. J. Guisez.—p. 1279.

Stenosis of the Esophagus in the Elderly.—Guisez calls attention to an inflammatory stenosis of the esophagus, occurring chiefly in men over 50 years old. The difficulty in swallowing is intermittent at first; after a few years it becomes permanent, and gradually even liquids do not pass through the esophagus. The disease at this stage may be mistaken for cancer. Incompletely chewed food seems to induce spasm of the esophagus, followed by stagnation of the food and inflammation of the organ. This entails hypertrophy or sclerotic degeneration of the mucosa, with consecutive stenosis. The disease may become complicated by cancer. Roentgen ray and esophagoscopy indicate the location of the stenosis. The treatment consists in repeated insertion of a filiform bougie, left for a few hours, continuing with bougies of a progressively larger size.

Comptes Rendus de la Société de Biologie, Paris

93: 1265-1336 (Nov. 27) 1925. Partial Index

*The Fetid Bacilli of Ozena. G. Blanc and G. Pangalos.—p. 1267; p. 1268.
Basal Azoturia. C. Richet, Jr., and Minet.—p. 1270.
Sarcoma from Injection of Indol. A. Carrel.—p. 1278.
Autophagy in Inflammation. K. Toumanoff.—p. 1281.
Culture Medium for the Bacteriophage. E. Pozerski.—p. 1285.
*Symbiosis of Bacteria and the Bacteriophage. F. d'Herelle and Hauduroy.—p. 1288.
*Anaphylaxis from Proteins. F. Arloing and Langeron.—p. 1305.
Absorption of Hemolytic Amboceptor. I. Moldovan and T. Slavoaca.—p. 1317.
Influence of Sugar on Lactation. I. I. Nitzescu.—p. 1319.
Mechanism of Action of Eserine. G. Popoviciu.—p. 1323.
*The Inactivated Bacteriophage as an Antigen. I. N. Asheshov.—p. 1327.
*Action of Insulin on Beriberi. X. Chahovitch.—p. 1333.

Bacilli Causing Fetidity in Ozena.—Blanc and Pangalos' experiments on rabbits showed that *Bacillus ozaenae* and *B. ozogenes* are only slightly virulent, have no particular affinity for the nasal fossae, and do not cause the characteristic lesions of the disease. Cultures of these bacilli were applied to the sound nasal mucosa of five persons and one with atrophy of one turbinate. In this latter subject these bacilli persisted in the nose for over three months; in the others they disappeared early. Evidently infection with bacilli responsible for the offensiveness of the discharge is a secondary phenomenon, occurring preferably in those with an atrophic form of the nasal disease.

Symbiosis of Bacteria with the Bacteriophage.—Bacterial emulsions treated with the bacteriophage were passed through filters impermeable for ordinary bacteria. In a few days or weeks the filtrates showed bacterial growth again, thus presenting secondary cultures of a filtrable form of bacilli resistant to the bacteriophage. With only slightly virulent bacteriophage the secondary cultures appeared rapidly, and the bacilli were almost unchanged. With a strongly virulent bacteriophage the cultures were scanty and tardy. No bacilli or cocci could be found in these cultures, only fine granules which gradually increased in number and size. When the secondary cultures are transplanted into a broth medium, the granules either resume the shape of normal bacilli or they may persist unmodified indefinitely. In this latter case they represent a perfect symbiosis of the bacterium with the bacteriophage. The symbiosis may be definitive or it may be interrupted by isolation on a solid medium. The phenomenon of symbiosis is also observed in secondary cultures from nonfiltered bacterial emulsions, if the bacteriophage is only slightly virulent. The vitality of the association: bacterium and bacteriophage is considerable. Shiga's bacillus, for instance, alone does not survive for more than a few weeks in broth, while in symbiosis with the bacteriophage it may be kept alive for ten years. This fact, d'Herelle and Hauduroy say, may explain the reviviscence, the renewal of vital activity, of certain infectious diseases, the origin of which is still a mystery.

Anaphylaxis Inducing Property of Proteins in Connection with Digestion Phases.—Arloing and Langeron's research on 113 guinea-pigs showed that the sensitization property of proteins does not parallel the property of inducing shock. The sensitization property of a protein is manifest rather in the beginning of digestion, while shock is induced more in the later phase of digestion.

Antigen Property of Inactivated Bacteriophage.—Asheshov injected rabbits with a bacteriophage rendered inactive by heating or drying and aging. The serums from these animals appeared to possess a specific antibody property against the bacteriophage.

Action of Insulin on Experimental Beriberi.—Chahovitch found that under insulin treatment the development of experimental beriberi in pigeons was retarded. The drop in temperature and loss of weight occurred also more slowly than in the controls.

Journal d'Urologie, Paris

20: 273-352 (Oct.) 1925

Prostatic Obstruction and Prostatectomy. L. A. Surraco.—p. 273.
**Renal Tuberculosis in Children. E. Falci.—p. 301.*
Calculus of the Ureter. V. Hourtoule.—p. 318.
Suppurating Pericystitis. J. Malartre.—p. 320.

Renal Tuberculosis in Children.—Falci gives comparative statistics on renal tuberculosis in children and adults. The disease is rare in young children; the proportion gradually increases with age, becoming most frequent between 12 and 18, and again between 19 and 30. Both kidneys are involved in young children twice as often as in adults, and the course of the bilateral disease is rapidly fatal in children. Operations in cases with one tuberculous kidney were followed by death in 44 per cent and aggravation of the condition in 16 per cent. No changes were noted in 16 per cent; while 24 per cent of the children recovered. The course of the bilateral disease is less rapid in adults than in children. After removal of the tuberculous kidney in adult unilateral cases, 56 per cent of the patients recovered, while only 24 per cent recovered in analogous cases in children.

Paris Médical

57: 533-548 (Dec. 26) 1925

Biology and Pathology of the Child. G. Mouriquand.—p. 533.
**Colitis and Nervous Disturbances. R. Savignac and R. Sarles—p. 540.*
Masked Syphilis in Obstetric Practice. Le Lorier and Galliot.—p. 542.
Intestinal Amebiasis. M. Leger.—p. 544.

Colitis and Nervous Disorder.—Savignac and Sarles call attention to the association of colitis with nervous disturbances of the type of morbid emotional reactions and anxiety neurosis. In colitis with pronounced fermentation and exaggerated production of volatile fatty acids or organic acids, disturbances indicating nervous irritability were found in over 71 per cent of 172 patients. In colitis with pronounced putrefaction, in which the amount of acids is almost normal, the coincidence of nervous phenomena was noted only in 20 per cent. Increase of the acids may disturb the acid-base balance, and subsequently act on the sympathetic system, inducing this *angoisse* syndrome.

Presse Médicale, Paris

33: *1697-1712* (Dec. *26*) 1925

*The Heart After Cervical Sympathectomy. T. Jonnesco and D. Ionesco.—p. 1697.
Organ Disturbances in Skin Diseases. L. Lortat-Jacob.—p. 1699.
Arterial Circulation in Bundle of His, et. E. Géraudel.—p. 1702.
*Tests in Tuberculosis. F. L. von Muralt and P. Weiller.—p. 1705.
Tube Treatment of High Intestinal iFstulas. J. Sénèque.—p. 1705.

Condition of the Heart After Sympathectomy.—Jonnesco and Ionesco's research was made weeks or years after partial or total resection of the cervical sympathetic in treatment of angina pectoris or other disease. The pulse and blood pressure appeared normal in the subjects. The force of the heart contraction was not modified. Roentgenoscopy showed that the operation had not affected the shape or size of the heart. There were no changes in the electrocardiogram and in auriculoventricular transmission of the impulse wave. An injection of epinephrine accelerated the pulse and increased the blood pressure even in those with old bilateral sympathectomy. Evidently the accelerator nerves are not of vital importance. Among seventy-four operations of the kind, resection of the cervical and thoracic sympathetic was done in thirty-two; a partial resection of the cervical sympathetic, including the superior cervical ganglion, in twenty-four; resection of Cyon's nerve in eighteen. The mortality was about the same after each type of operation, namely, 20 per cent. Jonnesco and Ionesco conclude that resection of the cervical and thoracic sympathetic, including the stellate ganglion, is the only effectual treatment of angina pectoris, since it suppresses all the sensory nerves involved.

The Diazo Reaction and Sedimentation Speed in Tuberculosis.—Muralt and Weiller report, among others, seven cases of pulmonary tuberculosis in which the diazo and sedimentation tests were applied to the blood. The diazo reaction was found invariably positive only in extremely grave cases; in others it may be negative. This reaction does not parallel the development of the disease. The speed of sedimentation of erythrocytes is rapid in grave pulmonary tuberculosis; it varies progressively in different forms of the disease, corresponding to its course. Hence the sedimentation test is more valuable in prognosis of tuberculosis than the diazo reaction.

Revue Française de Pédiatrie, Paris

1: 409-528 (Oct.) 1925

Perspiration in Infants. J. Meyer.—p. 409.
Smith's Sign and Venous Murmur. Brokman and Prokopowicz.—p. 439.
*Ultraviolet Rays in Tuberculosis. P. Gautier and R. Peyrot.—p. 447.
Tuberculosis in Young Children. L. Ribadeau-Dumas.—p. 453.
Bacteriology and Serology. A. Dufourt.—p. 478.
Syphilis in Children. M. Péhu.—p. 496.
Respiratory Diseases in Children in 1924. P. Armand-Delille et al. —p. 519.

Ultraviolet Rays in Treatment of Tuberculosis in Infants.—Gautier and Peyrot report the details of three cases, out of a total of fifteen, in which tuberculous infants were treated by systematic exposures to ultraviolet rays. These infants were all under 18 months, with a positive skin reaction. The whole body of the child was exposed daily to the rays, starting with a one minute exposure and gradually increasing to thirty or forty-five minutes. This actinotherapy was continued for months, without any unfavorable reactions. A pronounced improvement of the appetite, fever and weight was manifest in all, thus reenforcing the organism in its fight against the tuberculosis infection.

Revue Neurologique, Paris

32: 513-704 (Nov.) 1925

Histology and Pathogenesis of Charcot's Disease. Marinesco.—p. 513.
*Roentgen Rays and Radium in Treatment of Brain Tumors. G. Lévy. —p. 550.
Study of Apraxia; Two Cases. J. Lhermitte et al.—p. 586.
*Periarterial Sympathectomy in Epilepsy. J. Tinel.—p. 613.

Roentgenotherapy of Brain Tumors.—Lévy reiterates that the roentgen rays are contraindicated in cases of syphilitic gumma or tuberculoma of the brain. A superficial and circumscribed tumor, as well as those containing calcium or bone tissue, and cystic tumors are amenable to operative measures. The rays may be tried for glioma and for intraventricular and all diffuse and deeply situated tumors, especially in those of the pituitary gland. Small doses of rays are given as long as there are no signs of intracranial pressure. When choked disk appears, the exposures must be interrupted, and be resumed only after disappearance of the pressure on the brain, under lumbar puncture or decompressive trephining. In cases with old choked disk, the trephining should precede the roentgenotherapy. In cases with an uncertain localization of the tumor, successive fields of the whole skull should be exposed to the roentgen rays. This therapy is indicated in a tumor recurring after roentgen rays or operation. He summarizes a number of clinically successful cases from the literature, and adds that this treatment is harmless.

Periarteral Sympathectomy in Epilepsy.—Tinel reports that the woman of 38, subject to epileptic seizures since the age of 20, has had no return of true seizures during the six months since the decortication of both internal carotids by the usual sympathectomy technic. For the preceding three years there had been about three or four major seizures a day, with twelve or fifteen minor attacks.

Union Médicale du Canada, Montreal

54: 681-746 (Nov.) 1925

Interlobar Pleurisy. T. Bruneau.—p. 681.
*Fate of Ovarian Graft. P. Z. Rheaume.—p. 686.
The Practitioner and Disease of the Urinary Apparatus. B. G. Bourgeois.—p. 691.
Visceral Origin of Asthma. A. Le Sage.—p. 698.
Spontaneous Rupture of the Heart: Two Cases. Derome and Fontaine. —p. 707.
General Principles for Treatment of Pneumonia. A. Le Sage.—p. 710.
Idem of Asthma. A. Le Sage.—p. 711.
Uremia. (Lecture in Regular Course.) Lemierre.—p. 713.
Treatment of Eczema. A. Marin.—p. 722.

Remote Results of Ovarian Transplantation.—Rheaume had the opportunity to examine an ovary that had been transplanted into the abdomen after bilateral ovariectomy five years before. After the operation the woman suffered exceptionally severely from the phenomena of the induced menopause. At the recent laparotomy (required for a different disease), the ovary appeared reduced to one half its former size. It was enclosed in a fibrous capsule, but was abundantly supplied with vessels and was well nourished and anatomically almost intact. The physiologic function of the gland, however, had evidently never been resumed. Rheaume thinks that ovarian grafting is worth even less than grafting monkey testicles in men.

Archivio Italiano di Chirurgia, Bologna

14: 337-480 (Oct.) 1925

Lumbar Hernia. F. Virgillo.—p. 337.
Diverticulum in Lower Rectum. G. Fantozzi.—p. 418.
*Periarterial Sympathectomy. G. Pieri.—p. 433.
Structure of a Long Isolated Stomach Flap. Ciminata.—p. 474.

Periarterial Sympathectomy.—In Pieri's twenty-three cases, in all but one the femoral artery was the one decorticated. Ten of the patients (aged above 56) complained of intense pains in the thigh, and in all these cases the pains were abolished by the periarterial sympathectomy, but the nutrition of the tissues and the local circulation were not improved, and ischemic necrosis developed in three cases. Necropsy in one bilateral case showed that the caliber of the dorsalis pedis was less on the decorticated side than on the other. Other successful cases were one of perforating ulcer of the foot; one of simple ulcer, and one of neuropathic gangrene of the right leg in a man, aged 75. The pains disappeared at once. Three cases of tuberculous bone and joint lesions terminated in recovery, but the general sanatorium treatment was probably responsible for the healing. In a fourth case, conditions were aggravated by the sympathectomy.

Policlinico, Rome

32: 1705-1743 (Dec. 7) 1925

*Sodium Chloride and the Bacteriophage. A. Alessandrini.—p. 1705.
*Malaria Treatment of General Paresis. T. Cortesi.—p. 1708.
Case of Congenital Sarcoma. S. Castellana.—p. 1709.

Action of Sodium Chloride on the Bacteriophage.—Alessandrini found that all traces of bacteriophage action were lost in his cultures from a typhoid patient when the dilution of the culture was with physiologic sodium chloride solution and the tube was kept at a constant temperature of 37 C. for ten days. Distilled water and hydrant water had no such action on the bacteriophage, and the destructive action of the sodium chloride solution could be averted by addition of a little calcium carbonate. These facts sustain, he says, the assumption that the bacteriophage is a living organism, as sodium chloride penetrating the living cell forms within the cell a toxic product in combination with the acid it finds there, and the cell dies. But this occurs only with a living cell. The bacteriophage behaves in this respect like a living cell.

Malaria Treatment of General Paresis.—Cortesi saw no benefit from the malaria treatment in five far advanced cases, but in nine others the mental symptoms were materially improved. The physical symptoms, however, did not show much if any benefit. The great improvement was in the mental condition, amounting almost to a cure in one case. The intervals since have been only three to six months.

Riforma Medica, Naples

41: 1181-1204 (Dec. 14) 1925

Practical Tendency in Medicine. A. Ferrannini.—p. 1181.
*Lambliasis and Cholecystitis. C. Pappalardo.—p. 1183.
Presymptomatic Stage of General Paresis. G. Pellacani.—p. 1186.
Wassermann Reaction with Blood Clot. A. Pfanner.—p. 1190.
*Fourth Italian Urology Congress.—p. 1195.

41: 1205-1228 (Dec. 21) 1925

Underdevelopment. A. Galluppi.—p. 1205.
The Meltzer-Lyon Test. P. Marcovich and L. Monti.—p. 1210.
Exophthalmic Goiter. P. Castellino.—p. 1214.
Dermoid Cyst of the Mesentery. G. Piermarini.—p. 1224.
Unusual Form of Sarcomatosis. C. Lotti.—p. 1226.

Lambliasis and Cholecystitis.—Pappalardo aspirated gallbladder bile by the duodenal tube in thirty patients. No lamblia parasites were found in two of them who had cholecystitis, and in twenty-five with other diseases of the gastro-intestinal tract. In three of his five cholecystitis patients the lamblia was present in biles A and B.

Fourth Italian Urology Congress.—The chief topic for discussion at this congress was pyelonephritis.

Brazil-Medico, Rio de Janeiro

2: 259 276 (Nov. 7) 1925

*Hospitals of the State of S Paulo F. Terra —p 259. C'cn. p 283.
*The Blood Count in Changes of Balance in the Vegetative Nervous System. A. L. Pimenta Bueno.—p 266.

The Hospitals in the State of S. Paulo.—This is an official report. There are about 2,000 lepers in the state, and the model Sto. Angelo colony now under way is planned to surpass all other institutions of the kind in the world. The radium institute has 557 mg. of radium, bought in the United States.

The Lymphocytes in Leukocytosis.—Pimenta Bueno explains the fluctuations in the differential leukocyte count as the result of changes in the balance between the sympathetic and the parasympathetic. The polymorphonuclears react first to the vasomotor disturbance. When the disturbance is severe, the lymphocytes react too. In the latter case the peripheral blood loses both polymorphonuclears and lymphocytes, which migrate toward the central region, leaving only the mononuclears.

Gaceta Médica de Caracas

32: 305 320 (Oct. 31) 1925

Present Status of Caronia's Vaccine Against Measles and Milne's Method of Treating Measles. Villegas Ruiz —p 305.
*The Risquez Sign in Malaria. Villegas Ruiz.—p 307.
Cancers of the Face and Epibulbar Epitheliomas L. López Villoria. —p 308 C'cn.
The Mineral Springs of Venezuela. G. Delgado Palacios —p 310. C'td.

The Risquez Sign in Malaria.—Villegas Ruiz recalls that Risquez at the first Pan-American Congress, in 1893, called attention to the diagnostic importance of blood pigment loose in the blood in malaria. The melanic pigment can be easily detected in a drop of blood between the slide and the cover glass. A few drops of sulphuric acid, taken up by capillary attraction, will render it more evident by destroying the blood corpuscles and the hemoglobin without affecting the pigment. He had found this sign positive in different forms of malaria and even after quinine treatment and disappearance of the hematozoa from the blood. Arriola of Panama reported in 1911 that the urine in malaria contains a melanic pigment which may aid in the differential diagnosis. At a recent meeting of the Paris Tropical Medicine Society, Gastou and Perrot urged application of the Risquez test in parallel series in malarial districts to establish its differential value.

Prensa Médica Argentina, Buenos Aires

12: 621-656 (Nov. 20) 1925

Radiography of the Heart M. R Castex and J. J. Beretervide.—p 621.
The Pigmentation in Endemic Arsenic Poisoning M. Zinny and J. C. Vivaldo —p 625.
*Gelatin in Treatment of Pains M Margulis —p. 637.
Cultivation of the Entameba D. Greenway —p. 641.
*Neutral Red Serum Test for Cancer. A. H Roffo and Rivarola —p 644.

Gelatin in Treatment of Visceral Pains.—Margulis protests against restricting the use of solutions of gelatin merely to increase the coagulability of the blood, as it has a much wider field of usefulness. Wherever there is a visceral lesion that has reached a stationary phase or torpid course, with pain, daily subcutaneous injection of 5 or 10 cc. of a 5 per cent solution of gelatin may relieve the pain and speed up the healing process by rousing the defensive forces. He describes ten cases to show the efficacy of this treatment in angina pectoris, hemoptysis, aortitis and incipient tuberculosis, with or without a little phenol. Patiño Mayer has reported excellent results with gelatin in sixty cases of aneurysm. He used a weekly injection of 100 cc. of a 2 per cent solution.

Stain Test for Cancer.—Roffo and Rivarola tabulate the findings with their neutral-red serologic test in 202 cases. The list includes sixty-five of internal cancer, 113 patients with various diseases not suspected of malignancy, and twenty-one with cancers on skin or mucous membrane. In the sixty-five cancer cases, the test elicited a positive response in all but one instance, that is, in 98 4 per cent. In the group free from cancer, the response was negative in 100 per cent. In the twenty-one cases of superficial cancer, the reaction was positive in only 33 per cent. These findings harmonized with those from other biochemical tests, the superficial cancers having an outlet for their secretions, and the general metabolism is not affected so much as with internal malignancies. The age, the p_H, and the evolution of the process do not seem to affect the outcome. The test is merely the addition of 5 drops of a 0.03 per cent solution of neutral red to 2 cc. of the limpid serum With normal serum the tint of the fluid is yellowish; with cancer serum the tint changes rapidly to a more or less reddish color. The colorimeter gage used is a solution of phenolphthalein. The slightest tendency to hemolysis in the blood nullifies the test.

Revista de la Asoc. Médica Argentina, Buenos Aires

38: 371-444 (Oct) 1925

*Pneumonia in Children J C Navarro and J C Bertrand —p 371.
Primary Grave Recurring Anemia in Tuberculosis. P. Escudero and F Puchulu —p 385
Insanity from Surgical Standpoint E Albina —p 395
Recurring Dislocation of the Shoulder. F. Z. Guerini —p. 403
*The Hemoclastic Wassermann Test. P Lenci —p. 415.
Hemoptysis in Hypertension R Rossi —p 424
*The Trichina in Argentina S Odriozola —p 433.

Pneumonia in Children.—Navarro and Bertrand remark that the gravity of pneumonia in Argentina seems to depend on the geographical location. In the lowland it is mild, while in the mountainous regions the death rate of apparently the same process is high. In the thirty-five cases described all but ten were boys

Bancieu's Modification of the Wassermann Test.—Bancieu lets the blood coagulate and then breaks up the clot with a glass rod; this allows the hemoglobin to be dissolved in the serum. Lenci's comparative tests with this so-called hemoclastic and the original technic in 249 cases showed that in 15 per cent the Bancieu method was the more sensitive of the two. Lenci found it more convenient to draw the blood into tubes containing three or four beads which defibrinated the blood and prevented coagulation while mechanically destroying the erythrocytes This answered the same purpose as the clotting and glass rod

Trichinosis in Argentina.—Odriozola remarks that although trichinosis in man seems to be almost unknown in Argentina, 1,500 hogs were found to be infested with trichina in the slaughter houses of Buenos Aires in 1924 The municipal trichina laboratory protects the public.

Archiv für Gynäkologie, Berlin

127: 1 292 (Dec. 12) 1925

*Examination by the Rectum in Prevention of Fever T Koller —p. 1.
Prognosis of Amenorrhea. R. Hofstatter.—p 39
Management of Third Stage of Labor A. Haba —p 80.
Ovary and Cerebrospinal Fluid. E. Vogt.—p 97.
*Calcium Content of the Placenta. E Wehefritz —p 106.
*Colpitis Ventularum Flatau and Herzog —p 113
Sarcoma of Female Sex Organs. F Gál —p 122
*Infection Path in Pyelitis L. Luchs —p 149
*Edema in Pregnancy. G Kaboth.—p. 170
Hypernephroid Sarcoma in Pelvis Schiffmann and Szamek —p 194.
Adenoma of the Umbilicus J. Schiffmann and W Seyfert —p 208
Invasion of Adenomyomatous Uterus by Ovarian Cancer Steiner. —p 226.
*Repeated Cesarean Section Koloman von Lehoczky Semmelweis --p 237.
*Ovarian Function and Hormone B. Zondek and S. Aschheim —p 250

Examination by the Rectum in Prevention of Fever.—Koller found no difference in the frequency of fever or the mortality in the women who had been examined during labor exclusively by the vagina or by the rectum. Yet the frequency of peri-uterine puerperal wound infections was 0 32 per cent with vaginal examination against 0 05 per cent with rectal examination, each group including 4,017 women.

Calcium Content of the Placenta.—Wehefritz determined the calcium content of the placenta from different months of pregnancy. It was especially high up to the seventh month. The maximum was 1.1 per cent of the dry substance. It decreased later, together with a decrease in dry substance and changes of the proteins of the placenta.

So-Called Colpitis Vetularum.—Flatau and Herzog draw a close parallel between senile eczema of the skin and the atrophic changes of the vagina occurring in the menopause. No signs of inflammation were found. Dry treatment with pastes is best. Ovarian grafts might be considered.

Infection Path in Pyelitis.—Luchs examined the ureters in fifty pregnant women. Only nine of them had a perfect function of the ureters. The ureter was dilated in forty-one cases (nineteen on the right side alone, and the rest usually more pronounced on the right side). He accepts the probability of ascending infection in pregnancy pyelitis. Catheterization of the ureters is valuable for its prevention.

Edema in Pregnancy.—Kaboth found a decreased albumin-globulin ratio (0.81 instead of 1.5-2) in the serum from pregnant women with edema. The specific osmotic pressure of the serum colloids is lowered parallel to these changes. This lowered hydration energy contributes to the edema. Besides this, he observed changes in the capillaries and venules.

Repeated Cesarean Section.—Lehoczky-Semmelweis concludes that three cesarean sections may be reasonably performed on the same woman. The third is an indication for simultaneous sterilization, if the woman so desires.

Ovarian Function and Hormone.—Zondek and Aschheim used Allen's technic based on Lataste's discovery as the test method. They induced the typical changes in the vagina of mice by injection or implantation of theca cells and follicle fluid of the corpus luteum of menstruation and of pregnancy, but not of the regressive phase of the corpus luteum. Granulosa cells were inactive. The placenta was the only other organ containing the hormone which seems to be identical in different species. Only the experiments with rabbit ovaries were always negative. Neither cholesterol nor lecithin produced the ovarian cycle in castrated mice, although Fellner's lipoid extract was active. Administration by mouth of the tissues containing the hormone gave positive results. They point out, however, that none of the commercial preparations displayed any influence.

Archiv für klinische Chirurgie, Berlin

137: 463-736 (Dec. 22) 1925

Experimental Asthma and Its Treatment. W. Braeucker.—p. 463. C'td.
*Reaction of Pancreas. P. Walzel.—p. 512.
Chronic Thyroiditis. G. Hahn.—p. 549.
Infusion and Transfusion in Abdominal Surgery. Friedemann.—p. 555.
Jejunal Ulcer After Resection. E. Birgfeld.—p. 568.
*Experimental Research on Blood Transfusion. L. Rossius.—p. 583.
Osteoporosis and Rickets. C. R. H. Rabl.—p. 619.
*Bone Explants. E. Lick.—p. 635.
*Thoracic Duct and Sympathetic Nerve. S. Minkin.—p. 646.
Calcium Iontophoresis in Surgical Tuberculosis. A. Schanin.—p. 652.
*Radius Dislocation and Other Anomalies in Four Generations. R. Trauner and H. Rieger.—p. 659.
Biologic Diagnosis of Surgical Tuberculosis. H. Friedrich.—p. 667.
Sedimentation Test. W. Stemmler.—p. 705.
Heterotopic Endometrium. J. Bungart.—p. 719.
Gastric Ulcer in Children. M. Weber.—p. 731.

Reaction of Pancreas to an Operation on a Neighboring Organ.—Walzel deals with the acute necrosis or suppuration in the pancreas following surgical intervention on neighboring organs. The radical excision of penetrating ulcers of the stomach or duodenum is an especially frequent cause.

Experimental Research on Blood Transfusion.—Rossius bled rabbits nearly to death and then tested various forms of transfusion. Washed erythrocytes had only about the same influence as a physiologic solution of sodium chloride. She never succeeded with them in resuscitating an animal after paralysis of the respiration. Injection of serum gave as good results as transfusion of the whole blood.

Bone Explants.—Liek resected ribs of rabbits and kept one piece in a moist chamber, filled with oxygen, the other corresponding piece without a supply of oxygen. He transplanted the pieces later into the omentum of the same rabbit. Bone formation occurred with the rib portion that had been kept in the oxygen chamber up to six days. The control rib portions were all dead in one or two days.

Thoracic Duct and Sympathetic Nerve.—Minkin illustrates the topographic relations between the thoracic duct and the stellate ganglion. He says that certain prominent surgeons have injured the duct during sympathectomy.

Radius Dislocation and Other Anomalies in Four Generations.—Trauner and Rieger publish the clinical findings and the family tree of four generations with six cases of congenital dislocation of the radius. Besides this, there were changes in the knee and finger joints and atrophy of the nails. The heredity was dominant.

Deutsche medizinische Wochenschrift, Berlin

51: 2143-2160 (Dec. 25) 1925

Surgery of the Phrenic and Sympathetic Nerves. Colmers.—p. 2143.
*Proctostasis and Constipation. H. Strauss.—p. 2146.
*Bock's Polarization Test for Hormones. E. v. Schubert.—p. 2147.
Weleminsky's Tuberculomucin. K. Henius and E. Basch.—p. 2149.
"Action of Bile Acids." Neubauer.—p. 2150. Reply. Adler.—p. 2150.
*Origin of Syphilitic Blood Changes. H. Hecht and I. Schubert.—p. 2151.
Exanthema Subitum. S. Salomon.—p. 2152.
A Knife for Vaginal Surgery. E. Guttmann.—p. 2152.
Proprietary and Secret Remedies. Zernik.—p. 2152. C'tn.
Social Insurance and Tuberculosis. Blümel.—p. 2153.

Proctostasis and Constipation.—Strauss rates the proctogenous type of constipation at 5-10 per cent of all his cases. The diagnosis is safe, if we find repeatedly scybala in the rectum while the patient feels no desire to empty the bowels. Systematic training of the rectum—eventually by means of a few enemas—cures the simple cases. In the paradoxic proctostasis (diarrhea provoked by the presence of scybala), the hard masses have to be evacuated by hand.

Bock's Polarization Test for Hormones.—Schubert shows that the phenomenon observed by Bock is simply anisotropy—not a polarization. Consequently the angle read on the analyzer depends only on the position in which the droplet happens to be.

Origin of Syphilitic Blood Changes.—Hecht and Schubert induced a positive Hecht reaction in four, a Meinicke turbidity reaction in three, and a weak anticomplementary action in two out of five subjects injected with a mixture of hog serum and extract from human organs.

Klinische Wochenschrift, Berlin

4: 2481-2520 (Dec. 24) 1925

Present Status of the Neurone Theory. B. Klarfeld.—p. 2481.
Nervous Dyspepsia. H. Curschmann.—p. 2483.
*The Parathyroid Hormone. H. Schulten.—p. 2487.
Pharmacology of Glaucoma. L. K. Wolff and S. E. de Jongh.—p. 2489.
Percutaneous Shock Treatment. P. Seeliger and E. Herrmann.—p. 2490.
*Protein Therapy of Ulcer. E. Gohrbandt.—p. 2492.
Treatment of Diabetes. M. Lauritzen.—p. 2494.
Quality Standards for Roentgen Rays. H. Seemann.—p. 2496.
Needle Electrodes for Electrocardiography. A. Weber.—p. 2497.
"Cholesterol Metabolism." P. Huebschmann.—p. 2498.
Muscle Excitability in Epilepsy. R. Hopmann.—p. 2498.
Oligodynamic Action. A. E. Ruete.—p. 2499.
Dilation of Steno's Duct. T. Bársony.—p. 2500.
Acute Poisonings. L. Lichtwitz.—p. 2501.
Open Door Treatment of the Insane. H. Roemer.—p. 2505.
The Meinicke Microtest. W. Hartwich.—p. 2518.

The Parathyroid Hormone.—Schulten confirms Hanson's, Beermann's, Collip's and other research workers' discovery of the possibility of extraction of a parathyroid hormone by hydrochloric acid.

Protein Therapy of Ulcer.—Gohrbandt reports three cases of duodenal ulcer persisting in spite of a clinical cure attributed to protein injections. New ulcers formed in spite of this treatment, as also in three other patients operated on because of duodenal ulcers.

Zeitschrift für Kinderheilkunde, Berlin

40: 309-426 (Dec. 16) 1925

*Caronia's Intracutaneous Tests. A. F. Hecht.—p. 309.
*Protein Therapy in Children. A. F. Tur.—p. 322.
Ferments in Infants' Urine. A. F. Tur.—p. 331.
Enuresis and Dreams. S. Weissenberg.—p. 343.
*Activation of Tuberculosis by Measles? W. Beisken.—p. 353.
*Leukocytes in Gastro-Enteritis. F. Heissen.—p. 360.
Endocarditis in Young Children. R. Geiger.—p. 370.
Immunity in Tuberculosis. N. M. Nikolajew.—p. 401.
Congenital Syphilis. H. Orel.—p. 414.

"Protein Milk Plus Thickening." K. Ochsenius.—p. 422.
Reply. H. Pogorschelsky.—p. 424.
"Beef Serum in Measles." J. Smoira.—p. 425.

Caronia's Intracutaneous Tests.—Hecht used filtrates from Caronia's alleged scarlet fever and measles cultures for intradermal tests. The former were sometimes positive even after scarlet fever. The reaction to the alleged measles toxin was the same in children who had had measles as in those who had no history of measles.

Protein Therapy in Children.—Tur had only few good results with parenteral milk injections in children. The hypotrophic patients were benefited. The children with marasmus did not respond.

Activation of Tuberculosis by Measles?—Beisken joins Noeggerath and Eckstein in their skeptical attitude as to the activation of tuberculosis by measles.

Leukocytes in Gastro-Enteritis.—Heissen studied the morphology of the blood in twelve infants with toxicosis and forty with dyspepsia of infectious or alimentary origin. With grave conditions, the shifting to the left was so strong that there were hardly any normally segmented leukocytes. Myelocytes, promyelocytes and even myeloblasts were found in the grave cases, while the eosinophils were absent and monocytes practically absent. When the alimentary intoxication was only the final stage of a long illness, the percentage of lymphocytes was normal. In acute conditions, the neutrophils prevailed. The cytoplasm and granules were degenerated. The absolute counts were high (up to 34,000-40,000) unless the child had been weak before.

Zeitschrift für klinische Medizin, Berlin

102: 343-648 (Dec. 22) 1925

*Intravenous Injection of Glucose. E. Meyer.—p. 343.
*Spasm-Reducing Action of Glucose. H. Handovsky.—p. 347.
*Blood Pressure and Leukopenia After Glucose Injection. P. Wichels.—p. 352.
*The Capillaries After Glucose Injections. A. J. Weil.—p. 357.
*Histohemorenal Distribution of Lactose. E. Bernheim and C. R. Schlayer.—p. 369.
*Determination of Lactose in the Blood. A. Kowarski.—p. 382.
Pigmentation and Endocrine Dystrophy. Leschke and Ullmann.—p. 388.
*Goiter and Pulmonary Tuberculosis. A. Hittmair.—p. 412.
*Epinephrine Test in Diagnosis. A. Hittmair.—p. 420.
Action Hypertrophy of Muscle. H. Petow and W. Siebert.—p. 427.
Growth Promoting Substance in Tetanized Muscle. W. Siebert and H. Petow.—p. 434.
*The Thyroid and Gastric Secretion. S. G. Lewit.—p. 440.
*The Erythrocytes After Splenectomy. G. Roese.—p. 454.
Physiologic Leukocytosis in Man. A. Kobryner.—p. 470.
*Antigen Character of Own Erythrocytes. P. Wichels.—p. 484.
Muscular Backache. A. Müller.—p. 537.
Hypertrophy of the Heart and the Electrocardiogram. Burger.—p. 603.

Intravenous Injection of Glucose.—Meyer used intravenous injections of 10-20 cc. of a 10-20 per cent solution of glucose in several hundred patients. It enhances the action of simultaneously injected digitalis and strophanthin and prevents the angina pectoris which occurs occasionally otherwise after injections of strophanthin. He had excellent results in angina pectoris when injecting the glucose daily or every other day, eventually in combination with a theophyllin preparation. He had no reason to recommend a surgical intervention in any such case with hypertrophy of the heart and high blood pressure. The blood pressure became permanently lower in many patients. True angina pectoris without hypertension and without enlargement of the heart has a much graver prognosis. Intermittent claudication was well influenced. He recommends the treatment even in diabetics with angina pectoris.

Spasm Reducing Action of Glucose.—Handovsky saw no difference between the speed of the circulation in the rabbit heart perfused with Ringer's solution or with further addition of 2 per cent glucose. Serum used for perfusion caused a vasoconstriction even when diluted (sometimes up to 1:16). A solution of 1:250 or 1:500 of glucose inhibited the vasoconstrictor effect of certain serums. He found that this occurred only with those samples of serum which showed an increased amount of easily extracted cholesterol after addition of crystalloids. The same phenomenon could be induced by injections of glucose in the patients from whom the serum had been taken. The total amount of serum cholesterol was not high in these hypertension patients, but its lability in vivo as well as in vitro proved to be great. Westphal found this lability also in diabetes. Contrary to this, the lability of cholesterol is decreased in nephrosis, in infections, and toward the end of pregnancy.

Blood Pressure and Blood Counts After Glucose Injections.—Wichels confirms the lowering of the high blood pressure in twenty-one of twenty-six cases of genuine hypertension after intravenous injections of small amounts of glucose. The action of levulose and especially of sodium chloride was less pronounced. At the same time he observed a decrease of about 3,000 leukocytes per cubic millimeter. The absolute lymphocyte count did not change except with previous lymphocytosis. Atropine prevented this reaction. He also confirmed the decreased tonus of surviving strips of intestine from guinea-pigs, cats and dogs, after addition of 0.1 per cent glucose, if their tonus had been increased by addition of serum to the fluid in which they were suspended. The glucose had no influence on strips which were not under the action of the serum. He concludes that the glucose acts by changing the colloidal condition of the serum.

Capillaries After Glucose Injections.—Weil observed the capillaries after intravenous injections of small amounts of glucose. He found in hypertension patients a widening of the previously narrow lumen and better circulation, which was parallel with the lowered blood pressure. No changes were observed in the majority of nephritis patients.

Distribution of Lactose in Tissues, Blood and Kidneys.—Bernheim and Schlayer found in healthy subjects an almost complete parallelism in the excretion of lactose and of phenolsulphonphthalein when comparing their blood concentration and elimination. The latter appears to be almost independent of the former, and resembles more the curve of retention in the tissues. Differences between the two substances were observed in nephritis and in polyuria and oliguria. The latter two conditions do not influence the phenolsulphonphthalein test. Polyuria accelerates the decrease of concentration of lactose in the blood, without modifying its elimination much. Oliguria does not influence the lactose content of the blood, but prolongs its excretion. Novasurol impairs the excretion—just as it does with phenolsulphonphthalein—without changing the blood curve.

Determination of Lactose in the Blood.—Kowarski has devised a method based on the fact that the reduction power of lactose is about 30 per cent less than that of glucose. When it is inverted, by boiling with acids, into glucose and galactose, the reduction equals that of glucose. The difference of the reducing power of the two samples of protein-free blood filtrate indicates the amount of milk sugar.

Goiter and Pulmonary Tuberculosis.—Hittmair demonstrates by statistics of 500 subjects that parenchymatous goiter almost never occurs with exudative pulmonary tuberculosis. The latter was found comparatively frequently in patients with a hard or cystic goiter. A parenchymatous goiter gets smaller and harder, if the pulmonary tuberculosis becomes progressive.

Epinephrine Test in Diagnosis.—Hittmair concludes from his observations on some cases before, during, or long after splenectomy, that the changes in the number of leukocytes after test injections of epinephrine are only misleading in diagnosis of diseases of the spleen.

The Thyroid and Gastric Secretion.—Lewit noted an increased gastric secretion after administration of thyroid. Patients with hyperthyroidism have as a rule hyperacidity and hypersecretion. Hypacidity or achylia is frequent in exophthalmic goiter. It may be functional or due to atrophy of the mucous membrane of the stomach.

The Erythrocytes After Splenectomy.—Roese has found for such studies the dog a more suitable animal than the rabbit. Splenectomy increased here distinctly the hemopoietic function, as evidenced by an increased amount of erythrocytes and hemoglobin, and the presence of younger forms of erythrocytes in the blood. Injection of a spleen extract caused in such an animal a transitory decrease in the erythrocytes and especially a decrease of their oxygen consumption, which became practically normal for a day.

Antigen Character of Own Erythrocytes.—Wichels observed in a case of paroxysmal hemoglobinuria an increase in the titer of the cold hemolysins, autohemagglutinins and accelerated sedimentation speed after the attacks and a decrease in the intervals. He believes that the destruction of erythrocytes in the attack contributes by a circulus vitiosus to the prolongation of the sickness. Injection of own erythrocytes in patients with infectious diseases accelerated the sedimentation of the blood corpuscles. The results were negative with healthy subjects. He concludes from this that the acceleration of sedimentation is a reaction to the destruction of the own erythrocytes, which may act under certain conditions as an antigen in the patient's own body.

Zentralblatt für Chirurgie, Leipzig

52: 2929-3080 (Dec. 31) 1925

"Treatment of Arthritis Deformans." G. Hoffmann.—p. 2929.
Reply. E. Payr.—p. 2930.
"Surgery of Hallux Valgus." G. Hoffmann.—p. 2930.
Reply. E. Payr.—p. 2930.
"Healing by Primary Intention." W. Block.—p. 2932.

Zentralblatt für Gynäkologie, Leipzig

49: 2929-2992 (Dec. 31) 1925

"Treatment of Bleeding Laceration of the Cervix After Spontaneous Delivery." T. Johannsen.—p. 2929.

Časopis lékařů českých, Prague

64: 1825-1860 (Dec. 19) 1925

Obituary of J. Znojemský. Horák.—p. 1826.
Hemiatrophy of Tongue. J. Pelnář.—p. 1827.
Blood Oxygen in Surgery. V. Brezovnik.—p. 1828.
Periarterial Sympathectomy. C. Pokorný.—p. 1831.
Juvenile General Paresis in Congenital Syphilis. M. Springlová.—p. 1833. C'cn., p. 1880.
*Insulin and Muscular Fatigue. F. Karásek.—p. 1840.
Insulin and Automatic Movements. F. Karásek.—p. 1844.
*Marantic Infants and Hysteresis. K. Švehla and C. Saitz.—p. 1847. C'cn.

Insulin and Muscular Fatigue.—Karásek added 0.1 mg. of insulin to 20 cc. of sea water in which he studied the movements of the tentacles of sea anemones. Their contractility increased for a short time and decreased afterward for an hour. Addition of glucose had the opposite effect, which was enhanced by the simultaneous use of both insulin and glucose.

Infants with Marasmus and Hysteresis.—Švehla and Saitz publish a detailed study on the changes of colloidal stability of the serum (hysteresis of protoplasma) in infants, with especial regard to atrophic conditions and syphilis. They compared Růžička's technic with the flocculation reaction in syphilis.

64: 1861-1896 (Dec. 26) 1925

Exogenous Reaction in Epidemic Encephalitis. F. Kafka.—p. 1861.
*Status Epilepticus in Cerebral Syphilis. J. Stuchlik.—p. 1863.
Malaria Treatment of General Paresis. A. Bálint.—p. 1869.
Congenital Anomalies in the New-Born. J. Šimeček.—p. 1874.
*Membrane Potential. S. Janoušek and A. Andres.—p. 1877.

Status Epilepticus in Cerebral Syphilis.—Stuchlik observed a status epilepticus in a pregnant woman suffering from syphilis of the brain.

Membrane Potential.—Janoušek and Andres determined the hydrogen ion concentration and some of the electrolytes in the blood plasma and exudates in certain patients. The hydrogen ion concentration indicated the presence of Donnan's equilibrium when the exudate contained only a little albumin. The distribution of calcium, potassium and chlorine gave only slight indications of such equilibrium. Sodium was irregular, and phosphates were always lower in the serous fluids.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

2: 2523-2650 (Dec. 5) 1925

*The Bactericidal Property of Blood. L. K. Wolff.—p. 2528.
Experiences with Abortions. J. A. van Dongen.—p. 2540. C'cn.
*Scarlatinal Eruption After Chickenpox and Burns. Herderschêe.—p. 2548.
Plato on Psychic Disturbances. H. J. L. Lulofs.—p. 2552.
Alardus Auletius, 1545-1606. J. W. Napjus.—p. 2559.
Work in Treatment of Tuberculosis. J. G. A. Honig.—p. 2608.

The Bactericidal Potency of the Blood.—Wolff found no bactericidal property in rabbit blood while it was pronounced in normal human blood and even in furunculosis and other staphylococcus affections.

Scarlatinal Eruption After Chickenpox and Burns.—Herderschêe presents evidence which suggests the possibility of another specific factor in scarlet fever, besides the hemolytic streptococcus. It may be a filtrable virus that sensitizes the body for the streptococcus toxins. In any event, he thinks the relations between true scarlet fever, chickenpox and the lesions in burns will well repay closer study. In the last year he has observed thirty cases in which an eruption closely resembling that of scarlet fever developed a day or two after the appearance of the crop of vesicles in varicella.

2: 2763-2854 (Dec. 19) 1925

Dangers of Proposed Centralization of the Health Insurance System. P. Muntendam.—p. 2764.
Experimental Pseudocysts with Mucous Content (Rabbit). Finaly.—p. 2768.
*Vaccination Encephalitis. G. Brouwer.—p. 2773.
Comparative Study of Different Brands of Insulin. Sybrandy.—p. 2776.
Lipoma in Pia at Base of Brain. A. P. Timmer.—p. 2782.
*Pernicious Anemia in Roentgenologist. J. Lankhout.—p. 2789.

Vaccination Epidemic Encephalitis.—In a small town of 5,000 inhabitants, in the course of a recent month, a number of the children between 5 and 9 years old developed influenza and four developed epidemic encephalitis, fatal in one instance. Forty of the children had been vaccinated just before, and two of the encephalitis cases were in the vaccinated group. Brouwer adds that in the last three months he has encountered a large number of cases of infectious sore throat, and in eight instances there was acute, sometimes hemorrhagic nephritis. He never saw as many cases of the kind in all his years of practice as in this last quarter. What he calls "infectious sore throat" probably, he says, may be a form of influenza. In these cases it displayed an affinity for the kidney; when it displays an affinity for the brain, we have epidemic encephalitis. It might be well to ascertain whether influenza is prevalent among the children in the locality when vaccination is followed by encephalitis.

Aplastic Pernicious Anemia from Professional Use of the Roentgen Rays.—The man was director of a roentgen-ray laboratory, and had been careless about protecting himself. The blood was of the pernicious anemia type, the color index 1.3 a few days before death.

Hospitalstidende, Copenhagen

68: 1033-1048 (Nov. 19) 1925

Cerebral Hemorrhage in Eclampsia. S. A. Gammeltoft.—p. 1033.
*The Glycosuria Threshold in the Pregnant. K. Faber.—p. 1039.

68: 1049-1068 (Nov. 26) 1925

Charcot: The Man and His Work. V. Christiansen.—p. 1049.

The Glycosuria Threshold in Diabetes and Pregnancy.—Faber's latest research has confirmed his previous assertions as to the glycosuria threshold being an individual property which keeps constant in the individual, normal or diabetic, except under conditions of special stress, while the threshold may vary widely in different persons. Pregnancy is a period of special stress, and his record of the sugar content of the blood and of the urine in two pregnant women shows that the threshold is much lower than usual at this time. His tables show the findings every five minutes for an hour and a half after ingestion of 25 Gm. of sugar a week before delivery. The blood sugar was 54 in the first woman. When the blood sugar reached its maximum of 132, sugar appeared in the urine, and the glycosuria persisted until the blood sugar had dropped to 52. With test ingestion of 15 Gm. of glucose, there was no appreciable glycosuria. A week after delivery the blood sugar rose to 156 after ingestion of 25 Gm. of glucose but glycosuria did not appear until twenty-five minutes later. Six months later, the blood sugar rose from 94 to 197 after intake of 100 Gm. of glucose but no sugar appeared in the urine. He comments on the remarkably low sugar level in the blood during the pregnancy and the correction of this hypoglycemia during the following half year.

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FALLACIES OF THE "YEAST METHOD" OF DETECTING GLUCOSE IN THE URINE

FURTHER OBSERVATIONS ON A MYCOLOGIC METHOD TO IDENTIFY VARIOUS SUGARS AND OTHER CARBON COMPOUNDS *

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In several of the best known manuals of pathology and clinical methods, it is stated that the fermentation test by means of yeast is the only absolutely certain and specific test for glucose.

Since 1904, one of us[1] has called attention to the fallacy of this statement on various occasions, and some years ago we[2] published a paper, in which we described a new mycologic method for the detection of glucose and other carbon compounds, first theoretically devised by one of us (A. C.) in Ceylon. Our results were confirmed by various authorities. We[3] have since carried out some experiments on bakers' yeast (so-called German yeast), which is the yeast generally used in pathologic laboratories for the detection of glucose in the urine, and we can confirm what we stated in that paper. We have examined eight samples of bakers' yeast obtained in various quarters of London, and places near London, with the following results:

Sample 1, when inoculated directly into sugar peptone waters, fermented, with production of gas, glucose, levulose, maltose, galactose, saccharose, dextrin, lactose, adonitol, inulin, sorbite, dulcitol, mannitol, raffinose, arabinose, salicin, amygdalin, isodulcitol, erythrite and glycerin.

Sample 2 fermented, with production of gas, glucose, levulose, lactose, maltose and saccharose.

Sample 3 fermented, with production of gas, glucose, levulose, maltose and galactose; it produced acid but no gas in lactose.

Sample 4 fermented, with production of gas, glucose, levulose, maltose, galactose, saccharose, lactose, inulin and dextrin.

Sample 5 fermented, with production of gas, glucose, levulose and maltose.

Sample 6 fermented, with production of gas, glucose, levulose, maltose and galactose.

Sample 7 fermented, with production of gas, glucose, levulose, maltose, galactose, saccharose and lactose.

Sample 8 fermented, with production of gas, glucose, levulose, maltose, galactose, saccharose, dextrin, lactose, adonitol, inulin, sorbite, dulcitol, mannitol, raffinose, arabinose, salicin, amygdalin, isodulcitol, erythrite and glycerin.

Usually the ordinary samples of yeast, such as the foregoing obtained at bakeries, are not pure; they consist of one or two species of saccharomyces, with almost constantly a gram-positive bacillus. We therefore obtained cultures of pure yeast from the laboratories of well known yeast firms. Of three cultures so obtained, one fermented with the production of gas, glucose, levulose, galactose and saccharose; the other two fermented maltose in addition to these sugars.

When urine is fermented by bakers' yeast, we cannot, therefore, come definitely to the conclusion that the fermentable substance is glucose; it might be galactose, maltose, or other sugars. To detect glucose, recourse should be made to really specific germs for that sugar; i. e., germs that will ferment glucose only with the production of gas and no other carbohydrate.

Such organisms exist but are extremely rare, because, in our experience, when an organism ferments glucose with the production of gas, it will as a rule also ferment levulose and frequently other sugars and carbohydrates. One of the few germs that ferment glucose only with production of gas is *Monilia balcanica*, found by one of us (A. C.) some years ago; this monilia we unfortunately lost, together with other interesting fungi, in an accidental fire. Dr. Johns of New Orleans has informed us, however, that recently he has isolated a strain of typical *M. balcanica*, and that he is sending us a culture.

In the absence of *M. balcanica*, the next best organism to use instead of ordinary yeast is *Monilia krusei* Castellani. This monilia ferments, with the production of gas, glucose and levulose only. If a urine is fermented by it, we can conclude with certainty that it contains either glucose or levulose, or a mixture of the two. For practical purposes, therefore, it is much more suitable than bakers' yeast, which will, as a rule, ferment a very large number of sugars, including maltose, galactose, saccharose and lactose.

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* Part of the text of this article, concerned with the identification of insulin, has been ommitted from THE JOURNAL. The complete text will be included in the reprints.

[1] Castellani, Aldo: Meetings of the Ceylon Branch, Brit. M. A., 1904; Milroy Lectures, delivered before the Royal College of Physicians, London, 1918.

[2] Castellani, Aldo; and Taylor, F. E.: The Mycological Detection and Determination of Certain Carbohydrates and Other Carbon Compounds in Pathological Work, Brit. M. J. **2**: 855 (Dec. 29) 1917.

[3] Castellani, Aldo; and Taylor, F. E.: The Detection of Saccharosuria, Inosituria and Lactose by a Mycological Method, Brit. M. J. **1**: 183 (Feb. 15) 1919; Identification of Inulin by a Mycological Method, Biochem. J. **16**, 1922; Detection and Identification of Maltose, Galactose, Saccharose and Inulin by a Mycological Method, J. Trop. Med. **25**: 41 (Feb. 15) 1922; Observations sur une methode mycologique pour la recherche et l'identification de certains sucres et autres hydrates de carbone, Ann. de l'Inst. Pasteur **36**: 789 (Nov.) 1922; Further Researches on the Identification of Inulin and Maltose by a Mycological Method: Cases of Maltosuria, J. Trop. Med. **26**: 59 (Feb. 15) 1923.

MYCOLOGIC METHOD TO IDENTIFY VARIOUS SUGARS AND OTHER CARBON COMPOUNDS

We have been requested by several workers to give again a full description of our mycologic method for the identification of sugars and other carbohydrates apart from glucose. This, owing to the question of space, cannot be done. It will suffice to state briefly that we have not specific germs for each substance, germs which will ferment only maltose, galactose or inulin; but as there are a number of species of hyphomycetes and bacteria which select certain carbohydrates to the exclusion of others, we have found it possible, by using certain of these hyphomycetes and bacteria and comparing the results, to devise a general method. To understand the working of the method it is necessary to keep in mind the biochemical fermentative characters of certain fungi and bacteria, which are collected in table 1. We will limit ourselves to describing briefly the identification and detection of maltose, galactose and inulin, and we will also give a list of the principal mycologic formulas we have devised and employed in the identification of various other carbon compounds.

Table 1.—*Fermentative Characters of Certain Monilias and Bacteria* *

	Glucose	Levulose	Maltose	Galactose	Saccharose	Lactose	Mannitol	Dulcitol	Dextrin	Raffinose	Arabinose	Adonitol	Inulin	Sorbitol	Starch	Glycerol	Inositol	Salacine	Amygdalin	Isodulcitol	Erythrytol
Monilia balcanica (Castellani)	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monilia krusei (Cast.)	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monilia pinoyi (Cast.)	+	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monilia metalondinensis (Cast.)	+	+	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monilia tropicalis (Cast.)	+	+	+	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monilia rhoi (Cast.)	+	+	0	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monilia bronchialis (Cast.)	+	+	+	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monilia macedoniensis (M. macedoniensoides) Cast.	+	+	0	+	+	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0
Bacillus coli-communis (Esch.), strain 0	+	+	+	+	0	+	+	+	+	+	+	0	0	+	0	+	0	+	0	+	0
Bacillus coli-communior, strain 0	+	+	+	+	+	+	+	+	+	+	+	0	0	+	0	+	0	+	0	+	0
Bacillus paratyphosus B, var. M. Schottmüller	+	+	+	+	0	0	+	+	+	0	+	0	0	+	0	0	+	0	0	+	0
Bacillus paratyphosus A (Schott.)	+	+	+	+	0	0	+	+	+	0	+	0	0	+	0	0	0	0	0	+	0
Bacillus columbensis (Cast.)	+	+	+	+	0	0	+	+	0	0	+	0	0	+	0	+	0	+	0	+	0
Bacillus asiaticus (Cast.)	+	+	+	+	+	0	+	0	+	+	+	0	0	+	0	+	0	0	0	+	0
Bacillus pseudoasiaticus (Cast.)	+	+	+	+	+	0	+	+	+	+	+	0	0	+	0	+	0	+	0	+	0
Bacillus morgani (Cast. and Chalm.), strain S	+	+	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* In the tables and in the mycologic formulas, + indicates gas; 0, absence of gas; simple acid fermentation is not taken into account.

Identification of Maltose.—In order to determine whether a given substance contains maltose or not, a sterile 1 per cent solution in sugar-free peptone water is made and distributed into two tubes, each containing a Durham's fermentation tube or similar appliance. One of the following procedures is then used:

A. A 1 per cent sterile solution in sugar-free peptone water is made of the substance to be tested for maltose. The solution is distributed into two tubes, which are labeled 1 and 2. Tube 1 is inoculated with *Monilia tropicalis* and tube 2 with *Monilia macedoniensis,* or other monilias of the same group *(M. macedoniensoides).* If, after four days' incubation at 37 C., tube 1 contains gas and tube 2 does not, we can come to the conclusion that the substance is maltose. This is easily understood if we keep in mind the biochemical reactions of the two monilias. *M. tropicalis* ferments, with the production of gas, the following substances: glucose, levulose, galactose, maltose and saccharose. *M. macedoniensis* and all other monilias of the macedoniensis group (*M. macedoniensoides,* etc.) ferment, with the production of gas, the following carbon compounds: glucose, levulose, galactose, saccharose and inulin.

The substance we are investigating has been fermented with the production of gas by *M. tropicalis.* It can be, therefore, only glucose, levulose, maltose, galactose or saccharose; but if it had been glucose, levulose, galactose or saccharose, it would have been fermented with production of gas by *M. macedoniensis* also. Therefore, it can only be maltose.

$$\left.\begin{array}{l}\text{Monilia tropicalis (Cast.)} \ldots\ldots\ldots\ldots + \\ \text{Monilia macedoniensis (Cast.)} \ldots\ldots\ldots 0\end{array}\right\} = \text{Maltose}$$

B. Tube 1 is inoculated with *Monilia pinoyi* and tube 2 with *Monilia krusei.* The two tubes are placed in an incubator at from 35 to 37 C. for three days. If, after that time, tube 1 (*Monilia pinoyi*) contains gas and tube 2 (*Monilia krusei*) does not, we can come to the conclusion that the substance is maltose. This is easily understood by keeping in mind the fermentative reactions of the two monilias. *Monilia pinoyi* ferments with the production of gas only the following carbon compounds: glucose, levulose and maltose. *Monilia krusei* ferments, with the production of gas, only glucose and levulose.

Our substance has been fermented, with the production of gas, by *Monilia pinoyi;* it can be only glucose, levulose or maltose, but if it had been either glucose or levulose it would have been fermented also by *Monilia krusei;* therefore, it can be only maltose.

C. Tube 1 is inoculated with *M. metalondinensis* and tube 2 with *M. macedoniensis* or *M. macedoniensoides.* The two tubes are incubated at 37 C. for four days. If after that time tube 1 contains gas and tube 2 does not, the substance is maltose. This is explained by the fact that *M. metalondinensis* ferments with the production of gas only glucose, levulose, maltose and galactose; and *M. macedoniensis* only the following carbon compounds: glucose, levulose, galactose, saccharose and inulin.

The substance we are investigating has been fermented by *M. metalondinensis.* It can be, therefore, only glucose, levulose, maltose or galactose; but if it were glucose, levulose or galactose, it would have been fermented also by *M. macedoniensis.* There is only one possibility left—it must be maltose.

$$\left.\begin{array}{l}\text{Monilia metalondinensis (Cast.)} \ldots\ldots + \\ \text{Monilia macedoniensis (Cast.)} \ldots\ldots\ldots 0\end{array}\right\} = \text{Maltose}$$

Identification of Maltose when Present with Other Common Fermentable Substances (Glucose, Levulose, Galactose, Saccharose).—If a liquid is suspected of containing maltose mixed with glucose, levulose, galactose and saccharose, it is fermented with *Monilia macedoniensis* or *M. macedoniensoides.* If after exhaustion with *M. macedoniensis* the liquid is still fermented, with the production of gas, by *Monilia pinoyi, Monilia tropicalis* or *Monilia metalondinensis,* the conclusion is that the liquid also contains maltose. Strains of the various monilias should be used which have approximately the same fermentative power on the various carbohydrates they all ferment.

Identification of Galactose.—In determining whether or not a certain substance is galactose, the following procedures are used:

A. First, a 1 per cent sterile solution of the substance is made in sugar-free peptone water and distributed into two tubes, each containing a fermentation tube. Tube 1 is inoculated with *M. metalondinensis* and tube 2 with *M. pinoyi.* If, after four days' incubation at 37 C., tube 1 contains gas and tube 2 does not, the substance must be galactose. The explanation lies in the fact that *M. metalondinensis* ferments only the following carbon compounds: glucose, levulose, maltose and galactose. *M. pinoyi* ferments only the following substances: glucose, levulose and maltose.

The substance has been fermented by *M. metalondinensis*. It can be, therefore, only glucose, levulose, maltose or galactose. It has not been fermented by *M. pinoyi*, so it cannot be glucose, levulose or maltose. There is *only one possibility* left—it must be galactose.

Monilia metalondinensis .... + }
Monilia pinoyi .... 0 } = Galactose

B. The solution is distributed into three tubes, each containing a fermentation tube. Tube 1 is inoculated with *M. metalondinensis*, tube 2 with *M. krusei* and tube 3 with *M. macedoniensis*. The three tubes are placed in an incubator at 37 C. for four days. If, after that period of time, tubes 1 and 3 contain gas and tube 2 does not, the substance is galactose.

This is easily explained by keeping in mind the biochemical reactions of the three fungi. *M. metalondinensis* produces gas only in glucose, levulose, maltose and galactose; *M. macedoniensis* produces gas only in glucose, levulose, galactose, saccharose and inulin; *M. krusei* produces gas only in glucose and levulose.

The substance we are investigating has been fermented, with the production of gas, by *M. metalondinensis*. It can be, therefore, only glucose, levulose, maltose or galactose. It cannot be glucose or levulose, because in such a case it would have been fermented also by *M. krusei*, and it cannot be maltose, because it would not have been fermented by *M. macedoniensis*. There is only one possibility left—it must be galactose.

Monilia metalondinensis .... + }
Monilia krusei .... 0 } = Galactose
Monilia macdoniensis .... + }

C. The solution is distributed into three tubes: tube 1 is inoculated with *M. Macedoniensis*, tube 2 with *M. krusei* and tube 3 with *B. paratyphosus* B Schottmüller. If, after four days in the incubator at 37 C., tube 1 shows presence of gas, tube 2 shows absence of gas, and tube 3 shows presence of gas, we can come to the conclusion that the substance we are investigating is galactose. As the substance has been gas-fermented by *M. macedoniensis* it can be only glucose, levulose, galactose, saccharose or inulin; but it has not been fermented by *M. krusei*, therefore it cannot be glucose or levulose. It can only be galactose, saccharose or inulin, but if it had been saccharose or inulin it would not have been fermented by *B. paratyphosus* B. There is only one possibility left—it must be galactose.

Monilia macedoniensis (Cast.) . + }
Monilia [illegible] 0 } = Galactose
Bacillus [illegible] + }

D. The solution is distributed into two tubes; tube 1 is inoculated with *B. morgani* (strain S) and tube 2 with *Monilia krusei*. *If after three days in the incubator at 35 C.*, tube 1 contains gas and tube 2 does not, we can come to the conclusion that the substance is galactose.

This is easily understood by keeping in mind the fermentative reactions of the two germs. *Bacillus morgani* (strain S) ferments, with production of gas, only glucose, levulose and galactose, and *Monilia krusei only glucose and levulose*. The substance we are investigating has been fermented with production of gas by *B. morgani;* it can only be glucose, levulose or galactose. It has not been fermented by *Monilia krusei;* it cannot, therefore, be glucose or levulose; it must be galactose.

B. morgani (Cast. and Chalm.).... + }
Monilia krusei (Cast.)............ .0 } = Galactose

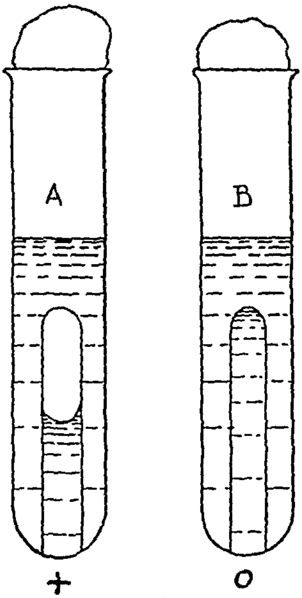
Identification of Galactose When Present with Other Common Fermentable Substances (Glucose, Levulose, Maltose, Saccharose).—To detect galactose in a liquid in which it is suspected to be present together with glucose, levulose, maltose or saccharose, the liquid is inoculated with an organism which gas-ferments all the sugars we have mentioned except galactose, for instance, *Monilia bronchialis*. If after exhaustion with *M. bronchialis* the liquid is still fermentable with *B. morgani*, *Monilia pinoyi*, or *Monilia tropicalis*, the inference is that the liquid contained galactose in addition to other fermentable substances.

USE OF THE MYCOLOGIC METHOD IN URINE ANALYSIS

From numerous experiments we have carried out, by adding to samples of urine various sugars and other carbohydrates, and also from a fairly large number of pathologic specimens, we can say that the method can be used in urine analysis for the detection and differentiation of certain sugars and other carbon compounds, such as glucose, maltose, galactose, lactose and pentose, provided the amount of such substances present is not too minute (not less than 0.1 per cent). The urine is distributed in sterile tubes containing Durham's fermentation tubes or similar devices and inoculated with the *organisms already mentioned.* Two points of considerable importance are:

1. The urine must be aseptic; if it cannot be collected aseptically it should be sterilized as soon as possible, after distribution in the tubes, by heating in Koch's steamer for thirty minutes; once is sufficient for practical purposes, but in special cases it may be heated on two or three consecutive days. It should never be autoclaved, as this procedure may alter the characters of the sugars and other carbohydrates present. Another procedure is to filter the sample of urine by means of a Chamberland or Berkefeld filter.

2. It is of great advantage to add a third or the same amount of peptone water to the urine; otherwise the organisms may, at times, grow very scantily, and there may be no distinct production of gas.



Identification of maltose: *A*, Monilia tropicalis; *B*, Monilia macedoniensis.

If a urine is Fehling-reducing, we can determine which it is of the six sugars found in pathologic urines (glucose, levulose, maltose, galactose, lactose, pentose) by the following procedure:

The urine is distributed into six tubes, each containing a Durham's fermentation tube. They are labeled 1, 2, 3, 4, 5 and 6. Tube 1 should be inoculated with *Monilia balcanica* Castellani, or *M. parabalcanica* Castellani; tube 2 with *M. krusei* Castellani; tube 3 with *M. pinoyi* Castellani; tube 4 with *M. metalondinensis* Castellani; tube 5 with *B. coli-communior* Escherich, and tube 6 with *B. paratyphosus* B Schottmüller.

After the tubes are incubated at 35 C. for four days, the results may be read:

1. If in tubes 1, 2, 3, 4, 5 and 6 gas is present, the reducing substance is glucose.
2. If tube 1 contains no gas, and in tubes 2, 3, 4, 5 and 6 gas is present, the reducing substance is levulose.
3. If tubes 1 and 2 contain no gas, and in tubes 3, 4, 5 and 6 gas is present, the reducing substance is maltose.
4. If tubes 1, 2 and 3 contain no gas, and in tubes 4, 5 and 6 gas is present, the reducing substance is galactose.
5. If tubes 1, 2, 3 and 4 contain no gas, and in tubes 5 and 6 gas is present, the reducing substance is a pentose.
6. If tubes 1, 2, 3, 4 and 6 contain no gas, and in tube 5 gas is present, the reducing substance is lactose.
7. If none of the tubes contain gas, the reducing substance belongs to the nonfermentable group of reducing substances, including uric acid, creatinine, hippuric acid, and others.

Presence in the Urine of More Than One Reducing Substance.—If the presence of more than one sugar and other carbohydrates is suspected, this may, to a certain extent, be ascertained and the various carbohydrates determined by our mycologic method. If we assume that the urine, after gas fermentation with *M. balcanica* Cast., is still fermentable with production of gas by *M. krusei* Cast., the conclusion is that in addition to glucose the urine must have contained levulose; strains of *M. balcanica* Cast., and of *M. krusei* Cast. having approximately the same fermentation power on glucose should be used. If, now, after exhaustion, first with *M. balcanica* Cast. and then with *M. krusei* Cast. the urine is fermentable with production of gas by *B. morgani* Cast. and Chalm. the presumption is that it contained three sugars—glucose, levulose and galactose. The explanation is found in the fact that *M. balcanica* Cast. ferments, with the production of gas, glucose only; *M. krusei* Cast., glucose and levulose; *B. morgani* Cast. and Chalm., glucose, levulose and galactose.

TABLE 2—*Identification of Certain Fehling-Reducing Substances*

Monilia Balcanica (Cast.)	Monilia Krusei (Cast.)	Monilia Pinoyi (Cast.)	Monilia Metalondinensis (Cast.)	Bacillus Paratyphosus B (Schott.)	Bacillus Coli (Esch.)	Reducing Substance *
+	+	+	+	+	+	Glucose
0	+	+	+	+	+	Levulose
0	0	+	+	+	+	Maltose
0	0	0	+	+	+	Galactose
0	0	0	0	+	+	Pentose
0	0	0	0	0	+	Lactose
0	0	0	0	0	0	Nonfermentable reducing substances of the groups creatinine, hippuric acid, uric acid, etc.

* The reducing substance is made into a 1 per cent peptone water solution. Selected strains of the various organisms with permanent biochemical reactions and producing a large amount of gas should be used.

There are, however, in certain circumstances some sources of error, but with these, as well as the precautions for avoiding them, and with the whole subject of the presence of more than one reducing substance, we propose dealing in a future paper.

SUMMARY

The whole subject can be condensed into the following formulas:

MYCOLOGIC FORMULAS

GLUCOSE

Monilia balcanica (Cast.)	+	= Glucose

LEVULOSE

Monilia krusei (Cast.)	+	= Levulose
Monilia balcanica (Cast.)	0	

MALTOSE

Monilia tropicalis (Cast.)	+	= Maltose
Monilia macedoniensis (Monilia macedoniensoides), Cast.	0	
Monilia metalondinensis (Cast.)	+	= Maltose
Monilia macedoniensis (Cast.) or Monilia macedoniensoides	0	
Monilia pinoyi (Cast.)	+	= Maltose
Monilia krusei (Cast.)	0	
Monilia pinoyi (Cast.)	+	= Maltose
Monilia macedoniensis (Monilia macedoniensoides), Cast.	0	
Monilia tropicalis (Cast.)	+	= Maltose
Monilia rhoi (Cast.)	0	
Monilia pinoyi (Cast.)	+	= Maltose
Bacillus morgani (Cast. and Chalm.)	0	
Monilia metalondinensis (Cast.)	+	= Maltose
Bacillus morgani (Cast. and Chalm.)	0	

GALACTOSE

Monilia metalondinensis (Cast.)	+	= Galactose
Monilia pinoyi (Cast.)	0	
Monilia metalondinensis (Cast.)	+	= Galactose
Monilia krusei (Cast.)	0	
Monilia macedoniensis (Cast.)	+	
Monilia tropicalis (Cast.)	+	= Galactose
Monilia bronchialis (Cast.)	0	
Monilia tropicalis (Cast.)	+	= Galactose
Monilia macedoniensis (Cast.)	+	
Monilia krusei (Cast.)	0	
Bacillus paratyphosus B (Schott.)	+	
Bacillus morgani (Cast. and Chal.)	+	= Galactose
Monilia krusei (Cast.)	0	

SACCHAROSE

Monilia tropicalis (Cast.)	+	= Saccharose
Monilia metalondinensis (Cast.)	0	
Monilia tropicalis (Cast.)	+	= Saccharose
Bacillus coli communis, sensu stricto (does not ferment saccharose), Escher	0	
Monilia tropicalis (Cast.)	+	= Saccharose
Bacillus paratyphosus B (Schott.)	0	
Monilia macedoniensis (Cast.)	+	= Saccharose
Bacillus coli communis, sensu stricto (Escher.)	0	
Bacillus coli communior	+	
Monilia macedoniensis (Cast.)	+	= Saccharose
Bacillus paratyphosus B (Schott.)	0	
Bacillus coli-communior	+	
Bacillus coli communis, sensu stricto (Escher.)	0	= Saccharose
Bacillus neapolitanus (Emmerich)	+	
Bacillus coli communis, sensu stricto (Escher.)	0	= Saccharose
Bacillus asiaticus (Cast.)	+	

INULIN

Monilia macedoniensis (Monilia macedoniensoides), Cast.	+	= Inulin
Monilia tropicalis (Cast.)	0	
Monilia macedoniensis (Cast.); (Monilia macedoniensoides)	+	= Inulin
Monilia rhoi (Cast.)	0	
Monilia macedoniensis (Monilia macedoniensoides), Cast.	+	= Inulin
[illegible]	0	
Monilia macedoniensis (Monilia macedoniensoides), Cast.	+	= Inulin
Bacillus asciaticus (Cast.)	0	

INOSITOL

Bacillus paratyphosus B, var. M. (Schott.)	+	= Inositol *
Bacillus paratyphosus A (Schott.)	0	

GLYCEROL

Bacillus asiaticus (Cast.)	+	= Glycerol *
Bacillus paratyphosus B, var. M. (Schott.)	0	
Bacillus columbensis, Strain L (Cast.)	+	

CHEMICOMYCOLOGIC FORMULAS

SACCHAROSE

Fehling	0	= Saccharose
Monilia tropicalis (Cast.)	+	

LACTOSE

Fehling	+	= Lactose
Bacillus [illegible]	0	
Bacillus [illegible]	+	

PENTOSE

Fehling	+	= Pentose †
Monilia tropicalis (Cast.)	0	
Bacillus paratyphosus B (Schott.)	+	
B. coli communis (Esch.)	+	

* With great probability.

† Generally arabinose

As is the case with every other biologic method, the results must be considered to be relatively and not absolutely certain. It is essential to use only selected strains of the organisms mentioned, with constant characteristics and producing a large amount of gas.

CONCLUSIONS

1. The yeast method, as described in most textbooks of medicine and clinical methods, is not specific for glucose, notwithstanding the statements to that effect. Ordinary samples of yeast, as a rule, will ferment levulose, maltose, galactose, saccharose, lactose and many other carbon compounds in addition to glucose. When a sample of urine is fermented by ordinary yeast, we cannot come to the conclusion that the urine contained

glucose, as it might have contained maltose, galactose, lactose, or other sugars.

2. For the identification of glucose and its detection in the urine, a fungus should be used which ferments only glucose. Such an organism is in *Monilia balcanica* Castellani. When *Monilia balcanica* for some reason is not obtainable, the next best organism is *Monilia krusei* Castellani, which ferments only glucose and levulose, and does not touch maltose, galactose, lactose or any other carbon compound. When a urine is fermented by *Monilia krusei*, it contains with certainty either glucose or levulose or both.

3. For the identification of various sugars and other carbon compounds, apart from glucose, the mycologic method, first devised by one of us (A. C.) in 1904, in Ceylon, and which we worked out together at King's College Bacteriological Laboratories in London, and published in 1917,[1] may be used with advantage. This method seems to be especially useful in the identification of maltose and galactose.

A METHOD OF SURGICAL DIATHERMY OR ENDOTHERMY

RENDERING IT PAINLESS WITHOUT AN ANESTHETIC

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NEW YORK

Just as a current of electricity heats an electric light filament, the high frequency current heats tissues through which it passes. The heating of the tissues by heat generated in them gives the name diathermy or endothermy to the application.

For many medical purposes, such as the treatment of arthritis, neuritis, sinusitis and pneumonia, large electrodes making contact with many square inches of the skin distribute the heat generated through such an amount of tissue as to raise the temperature only the few degrees required to produce a curative, not a destructive, effect.

ELECTRODESICCATION

The use of a very small electrode like the point of a needle concentrates the current and raises the temperature of the tissues at that point to the destructive degree. This takes place whether the needle is in direct contact with the tissues or whether it has to leap across a short air space. The current employed may be tested before approaching the patient by holding the electrode one-fourth inch from a silver coin held in the operator's fingers (fig. 1 *A*). A shower of sparks passes to the coin, and the current enters and passes through the operator's fingers to his body, but without any shock or inconvenience. It is only after applying the sparks to the coin for an unusual length of time that the coin begins to feel warm. The current or the heat generated in the tissues quickly destroys the surface tissue and converts it into a dry mass. This may be left as a scab and protection while the underlying surface is healing, or it may be curetted away. If the needle is thrust more deeply into the tissue, white bubbles emerge from the puncture, and the destruction is correspondingly deeper.

The current employed for electrodesiccation is the Oudin monopolar high frequency current of moderately high voltage.

ELECTROCOAGULATION

Electrocoagulation is another form of tissue destruction accomplished by a bipolar application of the d'Arsonval low tension high frequency current. One electrode covers many square inches at some indifferent part of the body, while the other active electrode is of small size, perhaps a metal disk half an inch in diameter. The indifferent electrode must make a perfect electric contact with the skin and so must the active electrode. The tissues are cooked, extending a certain distance from the active electrode, and of course are killed. Without condemning the method in toto, I cannot refrain from mentioning some of its dangers and drawbacks. A certain number of patients have been killed, doubtless by the accidental passage of a heavier current than was intended. It is difficult exactly to gage the depth to which the tissues have been devitalized. This is especially true when the active electrode is a metal disk, but with a needle electrode the operation is much more exact. By the latter means I have removed a carcinoma (proved by a pathologic examination by Dr. F. E. Sondern) of the male breast. Radium and roentgen ray were employed before and after the operation. There has been no recurrence up to the present time, three years after the operation. As the needle is moved from one part of the tumor to another, the contact with the tissues is broken, and there passes a short powerful electric arc between the needle and the tissues.

My previous invention was given for the free use of the medical profession when I presented it at the annual convention of the American Electrotherapeutic Association in New York in September, 1905. It consisted in the monopolar application of the high frequency current from a needle electrode held in a handle so constructed that, although the generator was in operation and connected with the handle by a wire, the uncharged needle could be applied to the skin and then by pressure on a part of the handle the current could be applied to the needle (fig. 1 *B*). Such a handle has been a common article of commerce ever since, without any profit to me.

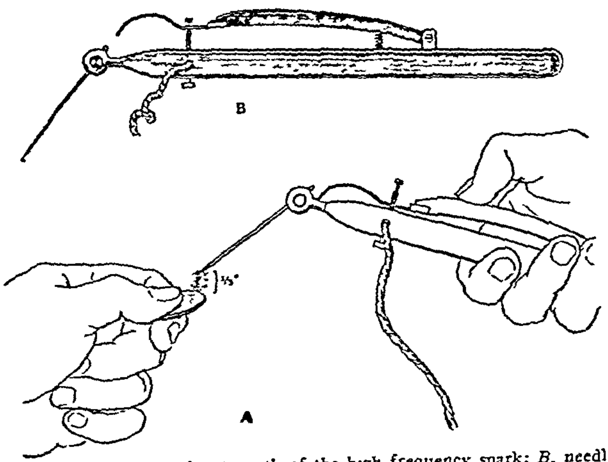

Fig. 1.—*A*, testing the strength of the high frequency spark; *B*, needle and handle for applying high frequency spark.

My present invention is also offered for the free use of the profession. The necessity for it lay in the pain caused by the concentration of the high frequency current at a single point, either by spark or by direct contact. A good way to become convinced of this fact is for the operator to apply this treatment to a roentgen-ray keratosis on his own hand. He simply cannot stand it long enough to destroy the growth. Of course, a hypodermic of cocaine or of procaine may be given, but in many regions where warts, moles and epitheliomas occur the prick of a hypodermic needle is extremely painful; and there is danger of infection or of metastasis. Whereas we have always known the toxic properties of cocaine, it has recently transpired that procaine also has certain dangers. If one has ever had any sensitive part frozen with ethyl chloride, he knows how painful that is. Altogether, the application is so simple and easy without an anesthetic that it seemed a pity that no means existed to make it painless.

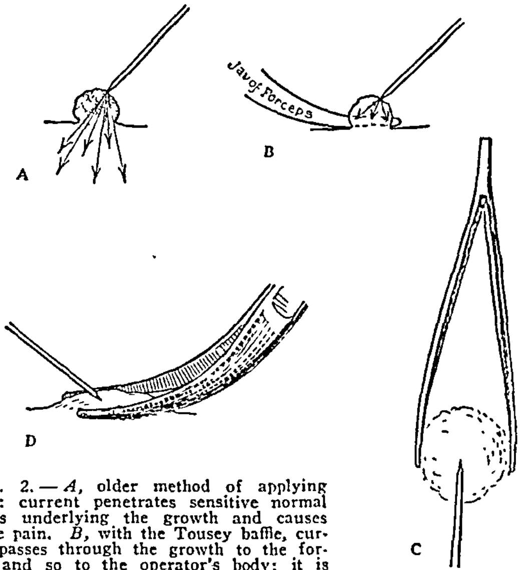

Fig. 2. — *A*, older method of applying spark: current penetrates sensitive normal tissues underlying the growth and causes severe pain. *B*, with the Tousey baffle, current passes through the growth to the forceps and so to the operator's body; it is diverted from the tissues underlying the growth. *C* and *D*, the baffle employed in the painless electrodesiccation of flat growths such as nevi and moles.

CAUSE OF THE PAIN

Many benign and malignant growths, for which this treatment is suitable, are insensitive; and yet when the operator tries to apply the treatment to his own hand he abandons it before the wart, for example, has been visibly affected. It seemed to me that the pain did not arise in the growth but from the transmission of the concentrated current and heat generation into the underlying tissues (fig. 2 *A*).

PREVENTION OF THE PAIN

If this is the cause, it seemed easy to limit the current to the part closely in contact with the electrode by applying a metallic conductor to a nearby part of the growth (fig. 2 *B, C, D*) or even to its pedicle if it is pedunculated or can be pinched up into such a shape. The current then passes from the needle electrode through the neighboring part of the growth to the metal conductor and so to the ground or to the operator's body.

The simplest way is for the operator, an assistant or the patient to hold a pair of thin, curved forceps which grasp the pedicle or which embrace a small part of the growth if it is a flat one. No conducting wire need be attached to the forceps. The needle point may make contact with the growth (fig. 3 *A*), or the sparks (fig. 3 *B*) may pass from it to parts of the growth embraced by the forceps or to the forceps themselves without pain or shock to the patient.

Aside from the absence of pain, the ability to proceed deliberately to destroy just the right amount of tissue is a great advantage. As fast as the tissue is killed, it becomes insensitive; and the device completely protects vital portions from the current.

My first four cases were treated, March 13, 1925, the day after I had made the invention. All were treated without an anesthetic.

REPORT OF CASES

Case 1.—Mrs. C., a physician's wife, with many moles and warts, had the treatment applied to a warty mole on the upper lip and to a soft black vascular looking mole on the side of the neck. She laughed and joked during the application. A momentary application without the forceps to divert the current from the deep tissue produced a pain.

Case 2.—Miss E. T., the sister of a physician, had a small, hard, black pedunculated mole near the umbilicus treated in the same way. She said that while she could smell the smoke from the mole under destruction, she felt no pain. As a matter of fact the mole, pedicle and all, came away in the forceps without her knowledge.

The same patient has always had numerous small warts about the neck which the dermatologist has not been able to get rid of. One after another, three of these were pinched up in the forceps, and sufficient current and sparks from the needle point were applied to destroy them. There was no pain, and the patient held perfectly still. An experimental application without the forceps to divert the current from the deep tissues caused her to jump with pain. Evidently in her case the older method would have been impracticable without some anesthetic.

Case 3.—Mrs. H., aged 80, had marked diabetes and a weak heart. She had very nearly died during an attempt at removal by an operation under procaine at the hands of the late Dr. Fordyce. This was for an epithelioma which I am now treating with radium. She had a flapping black mole near the outer canthus of the left eye, and she, too, laughed and joked while it was being destroyed.

Case 4.—My own hands presented numerous roentgen-ray keratoses. These were dry and insensitive but hurt terribly with the ordinary electrodesiccation. I had the office nurse apply my method to several of them. They would even burst into flame without pain, and the destruction could be carried just as deep as we thought desirable.

Case 5.—Miss S. had a very extensive black hairy mole, like elephant skin, on her back. This was removed without a local anesthetic but at two or three treatments. By applying the needle nearest the skin and the baffle to the more central part of the growth but close to the needle, there was very little pain; nothing like the excruciating pain without the baffle.

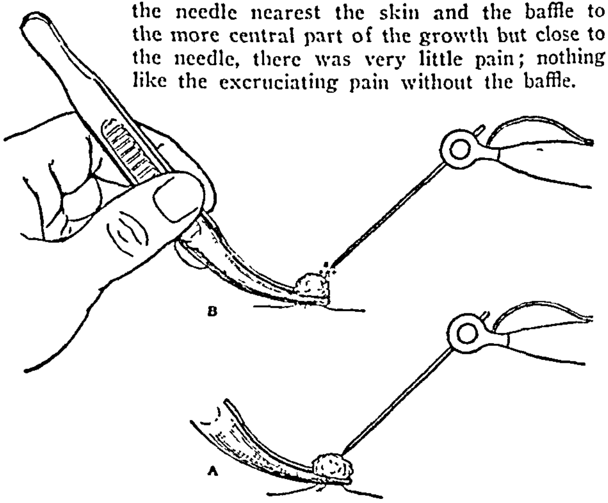

Fig 3 —Current applied as a spark or by direct contact. Tousey baffle prevents current reaching sensitive tissues underlying the growth.

COMMENT

Many other cases convince me of the saving in suffering accomplished by this device. I first announced it at a meeting of the trustees of the American Electrotherapeutic Association, Oct. 16, 1925, and first publicly described it at a meeting of the New England Association for Physical Therapy, Boston, October 27. The drawings accompanying this article were made by Mr. Bosse, March 18, 1925.

The method is applicable to cavity work; for instance, for tonsils. The diverting conductor may consist of forceps or may terminate in a simple loop, like a blunt uterine curet. The shaft of the active electrode must be sufficiently insulated not to transmit a current to the patient or to the shaft of the diverting conductor.

The surgical instrument companies have my consent to make an electrode that will combine the usual needle point electrode (straight or curved and charged with the high frequency current when the handle is pressed) with my diverting conductor insulated from the other and grounded either by a wire or by being held in the hand that holds the entire instrument. The electrode and the diverting conductor may be in a fixed relation, such as having the needle point at the middle of the loop, or they may preferably be movable so that it could project a desired distance through the loop. With the latter arrangement the needle could carry the current to deeper parts, from which it would pass back to the loop, making contact at the surface.

When there is a distinct pedicle, the simplest but the least reliable way is to grasp the growth by its free extremity, with the forceps (fig. 4), and apply the needle first to the pedicle and later to all parts of the growth. Sometimes the patient does not know when the growth comes off. The better way is to grasp the pedicle and apply the current to the distal part (fig. 3).

A baffle in a furnace directs the heat so as to prevent it from going up the chimney or from impinging in too great concentration on any part of the boiler.

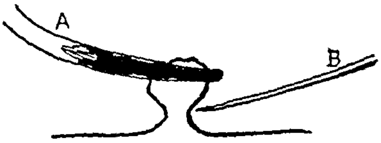

Fig. 4.—Simplest but least reliable use of the baffle: Forceps hold a pedunculated tumor by its apex while the spark is applied to the pedicle; *A*, forceps; *B*, diathermy needle.

In bipolar electrocoagulation by the method here described, the needle electrode is connected with one terminal of the d'Arsonval high frequency apparatus, and the baffle is connected with the other pole. They are applied to different parts of the growth to be destroyed, in the same way as are the monopolar needle and the baffle.

The clamp and electrode method with bipolar electrocoagulation is not equivalent to my method. At the first glance there is a marked resemblance, and it seems as if a metal clamp holding a hemorrhoid would act in the same way as my diverting conductor. We have all witnessed the suffering of a patient with hemorrhoids in spite of copious use of procaine under that method of treatment. With the bipolar method, the current is applied to an indifferent part of the patient by an electrode of many square inches, and reaches a stage of extreme concentration in the deep tissues just under the active electrode. Conduction by the forceps, if anything, adds to the current coming from the body of the patient up through the underlying tissues to the surface to which the active electrode is applied. From the nature of electricity, only a small amount of the current from the active electrode is diverted by the clamp compared with the part that meets the reverse current in the deep tissues.

ADVANTAGES OF THE METHOD

1. In superficial conditions, the method is an improvement on the ordinary electrodesiccation, because it is painless, requires no anesthetic, and, as the patient is quiescent, the procedure may be careful and just the desired amount of tissue destroyed. It is preferable to the bipolar method or electrocoagulation, because the latter is very painful and the extent to which deeper tissues are devitalized, even fascia, periosteum or bone, is always uncertain.

2. In deeper conditions, it has the same advantage as in the superficial and renders local anesthesia really effective.

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PREPARATION OF GENTIAN VIOLET SOLUTIONS FOR INTRAVENOUS INJECTION *

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The uniformly favorable results obtained by Young and Hill[1] in the treatment of acute septicemia by the use of dyes have attracted the attention of clinicians and have led to a more extensive use of dyes in the treatment of septicemia and also in local infection. The results obtained with the dyes are not uniformly encouraging; in fact, unfavorable results are being reported with sufficient frequency to check the development of dye therapy. It may be advisable, at this time, to call a halt to the indiscriminate use of dyes until the treatment has been standardized. However, the case against the dyes is not so much that they contribute to the course of the infection as that they fail to check it in an unknown percentage of cases. Toxic results occasionally follow the intravenous injection of dyes, particularly mercurochrome-220 soluble.[2] It is evident that much experimental work, both in the preparation and in the application of dye solutions to intravenous therapy, must be done before we can hope to have an adequate knowledge of their value and limitations. It should be determined why some experimenters obtain uniformly favorable results and others obtain uniformly unfavorable results.[3] The explanation should serve as a basis for standardizing and improving dye therapy. In the present paper we describe experiments designed to determine the best method of preparing gentian violet solutions for intravenous injection. The results obtained may, to some extent, explain the divergent results obtained by different clinicians in the application of dye therapy to the treatment of septicemias.

Certain factors affecting the value of dye therapy may be subject to control, while others are not. If the differences in results obtained are due to the selection, preparation and administration of the dye solution we have the opportunity, by determining the best procedure, to reduce the number of unsatisfactory results. If the divergent results obtained are due to variations in the bacteria and the host, we have less chance of increasing the value of dye therapy.

The factors that must be taken into consideration in the preparation of dye solutions for intravenous

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* From the Bacteriological Laboratories, State College of Washington.

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[1] Young, H. H., and Hill, Justina H.: Treatment of Septicemia and Local Infections by Mercurochrome-220 Soluble and by Gentian Violet, J. A. M. A. **82:** *669* (March 1) 1924.

[2] Reed, A. C., and Lum, D. D.: Toxic Results of Dye Treatment in Septicemia, J. A. M. A. **83:** 1681 (Nov. 22) 1924.

[3] Brill, I. C., and Myers, H. B.: Mercurochrome-220 Soluble and Gentian Violet, J. A. M. A. **84:** *879* (March 21) 1925.

injection are: toxicity of the dye for body cells; bactericidal action in the presence of body fluids, particularly blood; the reaction of the solution; osmotic pressure; stability of the solution, and solubility of the dye in the solvent. The experiments here described deal with certain of these factors, and the results obtained serve as a basis for the recommendation of a definite procedure in the preparation of gentian violet solutions for intravenous injection.

Table 1.—*Results of Experiments to Determine the p_H of Gentian Violet Solutions When Prepared with Various Solvents*

Solvent	p_H of Solvent	p_H After Addition of Dye	p_H After Standing Three Days
Tap water	7.6	5.78	5.95
Distilled water	6.7	5.04	4.97
[illegible]	7.3	5.31	4.85
[illegible]	8.6	8.45	8.57
Locke's solution	8.1	6.44	5.82
Buffered distilled water	6.8	6.49	6.37

EXPERIMENTS

The reaction or p_H of a solution for intravenous injection should be near that of the blood. The blood in health varies little from p_H 7.4. In disease, the range varies from p_H 7 to p_H 7.8. Death quickly follows a variation beyond either of these extremes. In septicemia there is usually, if not always, a decrease in alkalinity and in the alkali reserve of the blood. It is obvious that under such conditions the injection of an acid solution may prove detrimental.

The solution to be injected might be more beneficial if made alkaline, not only because it would increase the alkalinity of the blood but also because the bactericidal action of gentian violet increases with an increase in alkalinity. In view of these facts, the p_H of dye solutions assumes considerable importance. The danger attending the injection of solutions without first controlling the p_H has been emphasized by Williams and Swett.[4] Mellon, Slagle and Acree[5] describe a method of controlling the p_H of solutions by the use of buffers.

Experiment 1.—*To determine the p_H of gentian violet solutions when prepared with various solvents.*

A 1 per cent solution of gentian violet was prepared in tap water, Locke's solution, physiologic sodium chloride solution, a 3 per cent sodium bicarbonate solution, buffered distilled water and distilled water.[6] The buffered distilled water was prepared by adding 0.300 Gm. of potassium dihydrogen phosphate and 0.387 Gm. of dipotassium hydrogen phosphate to 100 cc. of distilled water. The dye was added to the solvents, which were then warmed over a bunsen burner, shaken for thirty minutes and allowed to cool to room temperature. The solutions containing sodium bicarbonate received less exposure to heat, to avoid the formation of carbonates. The heating was for the purpose of hastening and increasing the amount of dye going into solution. Care was taken not to heat sufficiently to affect any of the salts in solution. The warming approximated that usually resorted to in preparing solutions for intravenous injection. The dye solutions were cooled to room temperature and filtered and the p_H determined.[7]

Table 1 contains the p_H of each solvent before the dye was added, after the dye was added and after the solution had stood for three days. In all cases the addition of the dye and heat caused an increase in acidity. The change is quite marked except with the sodium bicarbonate solution and the buffered distilled water. Most of the solutions became more acid on standing at room temperature. The sodium bicarbonate dye solution is shown as being alkaline. This solution had stood two or three hours before being tested. It is questionable whether such a dye solution is alkaline when prepared.

It has been the practice to prepare gentian violet solution by adding the dye to either distilled water or tap water. Distilled water, unless freshly prepared, is acid. The acidity increases on standing, and such water may attain a reaction of p_H 5.05. Tap water is usually alkaline and will vary with the locality. Sterilizing by heat usually alters the p_H. The application of heat may make the solution more acid or alkaline, depending on the nature of the solution and the amount of heat applied.

Tap water should, on account of the reaction, prove to be a more desirable solvent for dyes than distilled water. Such solutions should be used freshly prepared, as the dye solution is more likely to break down if made with tap water, owing to the presence of salts.

Experiment 2.—*To determine the comparative solubility of gentian violet in various solvents.*

Dye solutions were prepared as in experiment 1. The heating to which the solutions were subjected apparently had little effect on the amount of dye going into solution. To determine the percentage of dye going into solution on the addition of 1 Gm. of dye to 100 cc. of the solvent, the solutions, after becoming cooled to room temperature, were filtered through filter paper. The weight of the residual matter remaining in the original container and on the filter paper and funnel was determined. From this was calculated the amount of dye going into solution.

This method does not determine accurately the amount of dye going into solution. As the dye goes into solution in some of the solvents, the salts present precipitate out. With Locke's solution the residual matter weighed more than 1 Gm.; i. e., more than the weight of the dye added. Some of the dye went into solution, as indicated by the color and bactericidal action. As determined by the colorimetric method, from about 0.1 to 0.2 per cent of the dye was taken up by the Locke's solution.

While this method does not, with the exception of the distilled water, indicate the exact amount of dye going into solution in the solvents, it does indicate that a certain amount at least has gone into solution. For instance, in the case of the sodium bicarbonate solution we know that 0.752 of the dye, and possibly more, went into solution. However, other factors than the solubility should prove to be of greater value in determining the best method of preparing dye solutions.

Table 2.—*Results of Experiment to Determine the Amount of Gentian Violet Going Into Solution in Various Solvents*

Solvent	Estimated Percentage of Dye in Solution
Distilled water	0.944
[illegible]	0.784+
[illegible]	0.752+
[illegible]	0.39+
Locke's solution	0.15

The results of experiment 2 are given in table 2. Apparently, Locke's solution and the sodium chloride solution are not satisfactory as solvents for gentian violet. This is suggested by experiment 2 and confirmed by other experiments.

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[4] Williams, J. R., and Swett, Madeline: Hydrogen Ion Concentration Studies, J. A. M. A. **78**: 1024 (April 8) 1922.

[5] Mellon, R. R.; Slagle, E. A., and Acree, S. F.: The Practical Application of "Buffers," J. A. M. A. **78**: 1026 (April 8) 1922.

[6] Gentian violet (medicinal), a National Aniline and Chemical Company product, was used in all our experiments.

[7] The p_H of the dye solutions was made with a potentiometer by J. F. St. John, experiment station chemist.

Experiment 3.—*To determine the stability of gentian violet solutions prepared with various solvents.*

Gentian violet solutions were prepared as in experiment 1. After filtering, the solutions were kept at room temperature in indirect sunlight and examined daily. The examination consisted of testing the staining power on filter paper and looking for precipitates.

The results obtained are given in table 3.

All the dye solutions with the exception of those made with distilled water, tap water and buffered distilled water broke down rapidly and apparently lost much, if not all, of their value as disinfectants the first day. If such solutions are to be used, they should be injected immediately after preparation. The dye solutions made with distilled water, tap water and buffered distilled water remained without visible change for several days. A gentian violet solution made in slightly acid distilled water and in a clean bottle has been on our shelves for a year with no apparent loss in staining power or bactericidal action. It has been opened frequently and exposed to ordinary room lighting. What effect age has had on the toxicity of the solution for the body is unknown to us. A dye solution that stains intensely and has no precipitates may be considered as being unaltered. With decomposition there is a loss of staining power and flocculation or precipitation. There may be some precipitation and the solution will still be serviceable, but if the staining power is reduced or lost the solution should be discarded. A serviceable solution should stain filter paper intensely and uniformly.

Table 3.—*Results of Experiment to Determine the Stability of Gentian Violet Solutions when Prepared with Various Solvents*

Solvent	p_H of Solvent	p_H Dye Solution	Days 1	2	3
Distilled water......	*6.95*	*5.19*	*No change*	*No change*	*No change*
Buffered distilled water	6.8	6.12	No change	No change	No change
Tap water..........	7.7	6.00	No change	No change	No change
3 per cent sodium bicarbonate	9.6	7.35	Almost total loss of staining power with much precipitation	Completely decomposed with loss of staining power	....
Physiologic sodium chloride solution	*7.5*	*5.31*	*Little staining power and much precipitation*	*Completely decomposed with loss of staining power*	....
Locke's solution....	8 2	6 44	Reduction *of staining* power and some precipitation	Further *decomposed*	Completely *decomposed* with loss of staining power

The gentian violet solution made with tap water showed a slight precipitation on the fourth day. The change was not sufficient to destroy the value of the solution as a disinfectant. Since tap water varies in different localities as regards the salts in solution, it is advisable to use such solutions freshly prepared.

It is evident from these experiments that gentian violet solutions, if they are to be kept some time, should be free of sodium if not of other salts. However, this does not mean that sodium salts do not have a place in dye therapy. It has been shown that the staining power and bactericidal action of most dyes is greater in an alkaline solution.[8] Also, since the alkalinity of the blood is reduced during septicemia, the use of sodium bicarbonate is indicated. The one objection to the use of sodium bicarbonate is that it causes the dye solution to break down rapidly.

Experiment 4.—*To determine the comparative bactericidal action of gentian violet in various solvents.*

Fresh dye solutions were prepared as in experiment 1. A tap water solution was not prepared because such water varies greatly with the locality. To 5 cc. of each solution was added a 0.1 cc. suspension of a twenty-four hour culture of *Staphylococcus albus*. At intervals up to thirty minutes a loop of the dye organism suspension was plated out by the usual method, two plates being used. Not enough dye reached the second plate to inhibit growth. The results are given in table 4.

The dye solutions made with distilled water, 3 per cent sodium bicarbonate, and buffered distilled water killed the organisms immediately. The organisms resisted the dye in Locke's solution for ten minutes and in physiologic sodium chloride solution for thirty minutes.

The experiment was repeated, a 1:1,000 gentian violet solution in distilled water, 3 per cent sodium bicarbonate solution and buffered distilled water being used. The organisms were killed immediately by the dye in buffered distilled water, in less than three minutes in the sodium bicarbonate solution and in less than ten minutes in the distilled water.

It is evident that Locke's solution and physiologic sodium chloride solution should not be used as solvents in preparing gentian violet solutions.

Experiment 4 was repeated, except that 1 per cent dye solutions made with distilled water and buffered distilled water were used thirty days after being prepared. The organisms were killed immediately in both solutions. Apparently these solutions lost little if any of their bactericidal action on standing thirty days. The sodium bicarbonate solution breaks down in a few hours with a loss of the bactericidal action.

Two factors, exclusive of decomposition, affect the bactericidal action of the dye solutions, the amount of dye going into solution and the alkalinity.

Experiment 5.—*To determine the comparative toxicity of gentian violet in various solvents.*

One per cent gentian violet solutions were freshly prepared each day in distilled water, buffered distilled water and 3 per cent sodium bicarbonate solution. It was not considered desirable to use the other solvents listed in experiment 1. They were eliminated for reasons indicated by the preceding experiments.

Rabbits were injected in the marginal ear vein on four successive days with different amounts of the 1 per cent dye solutions. The amount given was calculated from the weight each day. A record was kept of the loss or gain in weight shown each day. The results are given in table 5.

All the animals receiving the dye in the sodium bicarbonate solution lived. Practically all suffered with diarrhea and lost weight following one or more of the injections. The toxic effect is cumulative.

Table 4.—*Results of Experiment to Determine the Comparative Bactericidal Action of 1 Per Cent Gentian Violet in Various Solvents for Staphylococcus Albus*

	Minutes 0	3	5	10	20	30
Distilled water.............................	—	—	—	—	—	—
3 per cent sodium bicarbonate...	—	—	—	—	—	—
	—	—	—	—	—	—
	+*	+	+	+	+	+
	+	+	+	+	—	—

* *The plus sign indicates growth.*

The animals receiving the dye in the buffered solvent showed more severe reactions, greater diarrhea and all but those receiving the 7 mg. per kilogram died following the second or third injection.

The animals receiving the dye in distilled water also showed more severe reactions, and all died except one of those receiving 7 mg. per kilogram of body weight.

The dye in distilled water appears slightly more toxic than in a buffered solution. Possibly this is due to the greater acidity. The sodium bicarbonate solution was the least toxic. It was more alkaline than the other solutions. Two rabbits were given 20 mg. per kilogram of body weight of the dye in sodium bicarbonate solution. One died in a few minutes after receiving the first injection. The other rabbit resisted four injections. Of forty-two rabbits injected, only two others died immediately after an injection and these received the dye in distilled water. This work was done on normal animals.

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[8] Burke, Victor: Notes on the Gram Stain, with Description of a New Method, J. Bacteriol. 7: 159 (March) 1922. Burke, Victor; and Grieve, Irene: Value of Alkali in Dye Therapy, Am. J. M. Sc. 168: 98 (July) 1924.

Table 5.—*Results of Experiment to Determine the Comparative Toxicity of Gentian Violet in Various Solvents*

Rabbit	Solvent	Mg. per Kg.	Doses	Changes in Weight*			Results
1	3% sodium bicarbonate	7	4	+ 46	−107	+65	Lived
2	3% sodium bicarbonate	7	4	+282	− 62	−15	Lived
3	3% sodium bicarbonate	11	4	+ 5	− 6	+40	Lived
4	3% sodium bicarbonate	11	4	− 15	+ 50		Lived
5	3% sodium bicarbonate	15	4	+ 6	+ 54	−65	Lived
6	3% sodium bicarbonate	15	4	+ 25	+115	−90	Lived
7	Buffered solvent........	7	4	+ 49	− 7	−28	Lived
8	Buffered solvent........	7	4	+ 45	+ 20	−60	Lived
9	Buffered solvent........	11	3	+ 79	−320		Died after 3d injection
10	Buffered solvent........	11	3	− 15	−135		Died after 3d injection
11	Buffered solvent........	15	2	− 35			Died after 2d injection
12	Buffered solvent........	15	3	− 60	−210		Died after 3d injection
13	Distilled water..........	7	4	− 25	− 20	−15	Lived
14	Distilled water..........	7	4	− 27	− 13	− 8	Died
15	Distilled water..........	11	4	− 21	+ 5		Died
16	Distilled water..........	11	4	− 10	+ 10	−95	Died
17	Distilled water..........	15	4	− 33	− 80	−75	Died
18	Distilled water..........	15	2	− 43			Died in few Minutes after 2d injection

* The plus sign indicates an increase in weight; the minus sign a loss in weight.

Greater differences might have developed if the injections had been made in animals suffering from septicemia, in which there is a reduction in the alkalinity of the blood.

The experiment was repeated with comparable results.

Experiment 6.—*To determine the bactericidal action of blood following the intravenous injection of gentian violet.*

A rabbit received 11 mg. per kilogram of a 1 per cent gentian violet solution prepared with buffered distilled water. Ten minutes later, blood was drawn and defibrinated by shaking with beads. To 2.5 cc. of defibrinated blood was added 0.25 cc. of a suspension of *Staphylococcus albus.* The blood-organism suspension was plated out immediately, and at six and twenty-four hours. The suspension was kept in the incubator. The loop method of plating out was used, the first tube receiving a loop of the blood-organism suspension and the second tube a loop from the first tube. Saline solution and normal blood were used as controls. The plates were incubated, and counts per microscopic field and per plate were made. The results are given in table 6. The experiment demonstrates a reduction in number of viable bacteria in the blood dye mixture at six hours and an increase at twenty-four hours. The same results were obtained with normal blood. When a saline solution is used, there is a further reduction at twenty-four hours. The death rate is higher in the blood at six hours than in the saline solution, but it is no higher in the blood-dye mixture than in the dye-free blood. The increase in the numbers of bacteria following the decrease in numbers may be due either to a loss in the bactericidal action of the blood, if such exists, or to an increased tolerance for the blood on the part of the organisms. The experiment was repeated a number of times with comparable results.

It is evident that the experiment fails to indicate an increase in the bactericidal or bacteriostatic properties of rabbit blood following the intravenous injection of 11 mg. per kilogram of body weight of gentian violet. The experiment was modified to the extent that the blood was drawn one and one-half hours after the injection of the dye. The results obtained were similar to those obtained with blood drawn immediately after the injection of the dye.

Experiment 7.—*To determine the bacteriostatic action of blood following the intravenous injection of gentian violet.*

Rabbits were injected with a gentian violet solution as in experiment 6. Ten minutes and one and one-half hours later, blood was drawn and added to agar having a reaction of p_H 7.4 in the proportion of 40 drops to 10 cc. of melted agar. This was poured into a petri dish in such a manner that it was restricted to half the plate. Blood-free agar was poured into the other half of the plate. Strokes of *Staphylococcus albus* and *Bacterium coli* were made to cross both the blood agar and the blood free agar. The experiment was made seven times.

When drawn within ten minutes of the injection of the dye, the blood inhibited the growth of *Staphylococcus albus* in five of the seven times the experiment was made. The inhibition was very definite, as the organism grew vigorously along the stroke up to the edge of the blood agar and ceased abruptly at the point at which the blood agar began. That the organisms were inhibited rather than killed was shown by drawing a loop along the stroke on the blood agar and then stroking the surface of a fresh agar slant. Vigorous growth was obtained. When drawn one and one-half hours after the dye was injected, the blood showed no bacteriostatic action, the organisms growing as vigorously on the blood agar, as on the blood-free agar. These plates served as controls. In no case was *Bacterium coli* inhibited.

Experiment 7 demonstrates that, for a few minutes following the intravenous injection of 11 mg. per kilogram of body weight of 1 per cent gentian violet in a buffered solution, the blood of a rabbit may be bacteriostatic for *Staphylococcus albus* but not for *Bacterium coli.* The experiment was repeated three times with acriflavine and no bacteriostatic action was noted.[9] However, since the gentian violet injected inhibited bacterial growth, it is possible that the acriflavine makes the blood a somewhat less favorable medium for the growth of bacteria even though it does not inhibit growth. It is evident that in many cases of septicemia any slight aid may turn the tide in favor of the patient. Since acriflavine is a powerful disinfectant and passes through the kidney unaltered, its presence in the blood stream may check bacterial multiplication. Clinical reports indicate that it does.

Table 6.—*Results of Experiment to Determine Bactericidal Action of Blood Following the Intravenous Injection of Gentian Violet*

Time of Exposure Hours	Material	Plate 1 Colonies per Microscopic Field	Plate 2 Colonies per Plate
0	Blood-dye..............................	27	60
6	Blood-dye..............................	12	34
24	Blood-dye..............................	27	164
0	[illegible]	29	81
6		21	64
24		6	14
0	Normal blood.........................	23	..
6	Normal blood.........................	10	..
24	Normal blood.........................	32	..

Experiment 7 confirms the pioneer work of Churchman and Herz[10] on gentian violet.

Brill and Myers[3] report on experimental studies of the bactericidal action of mercurochrome-220 soluble and gentian violet in mediums enriched with human blood for cultures of *Bacterium coli-communior,*

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[9] Neutral acriflavine, manufactured by the Abbott Laboratories, was used.

[10] Churchman, J. W., and Herz, L. F.: The Toxicity of Gentian Violet and Its Fate in the Animal Body, J. Exper. Med. **18**: 579, 1913.

Staphylococcus albus and *Streptococcus viridans* isolated from the blood stream of human beings. They used the dyes in 1 : 10,000 dilutions, the estimated concentration in the blood stream following the injection of 7 mg. per kilogram of body weight. The conditions of their experiments were such as to give qualitative rather than quantitative results. The experiments failed to determine whether the number of organisms remained the same, increased or decreased. They simply determined whether or not all were killed.

While the experimental procedure adopted by Brill and Myers differs markedly from ours, the results obtained by them, considered from a practical standpoint, agree with those obtained by us regarding the bactericidal action of gentian violet in nonlethal concentration in the blood. This is evident when we consider that the dye is rapidly secreted by the kidney, and the organisms in the blood would be exposed to it for only a short time. It should be remembered, however, that the dye may check multiplication of the organisms in the blood stream or injure them even though it does not kill them. If it has either action, it becomes a valuable aid in the treatment of septicemia. That it has some action is evident from the favorable results obtained in the clinical application of this dye and by our experiments on the bacteriostatic action of the blood following the intravenous injection of the dye.

Our results with acriflavine agree with those obtained by Spencer,[11] who failed to detect any increase in the bacteriostatic action of blood following the intravenous injection of this dye.

Meleney and Zau [12] report that the injection of acriflavine into rabbits suffering with hemolytic streptococcus infection actually hastens death. However, they made up the dye solution in saline solution prepared from double distilled water, which is usually acid. The addition of acriflavine increases the acidity. As a result of the septicemia, the rabbits were probably suffering with a reduced alkalinity of the blood. Acid reduces the bactericidal action of acriflavine. It is obvious that the results of Meleney and Zau cannot be accepted as conclusive concerning the value of the dye.

Hill and Colston [13] report an increase in the bacteriostatic action of blood for *Bacterium coli* following the intravenous injection of mercurochrome..

In most instances, investigators reporting results of experimental work with dyes fail to give all the details of their experiments. For this reason it is not feasible to review all the work done with the object of determining why one investigator succeeds in demonstrating an increase in the antibacterial action of blood following the intravenous injection of dye and another fails.

COMMENT

Numerous factors must be taken into consideration in estimating the value of dye therapy in septicemia. One need only review the literature, both experimental and clinical, and note the divergent results obtained and opinions expressed by different experimental workers and clinicians to realize the importance of these factors and the failure to control and utilize them properly. In correctly estimating the value of dye therapy, it is advisable to keep in mind not only the factors that affect the action of the dye on bacteria and on the host but also the combined action of the dye and host on the bacteria. In this connection, it is well to review some of the facts and theories of the chemotherapy of infections in general, as these may serve as a basis for a revaluation of dye therapy. A disinfectant may destroy the parasites in one host and not in another. Certain dyes will destroy trypanosomes in the mouse but not in the rat. Emetine cures amebic dysentery in man but not in kittens. The blood of one host may increase the action of a disinfectant, while that of another host decreases it. An inadequate dose of partially decomposed dye may stimulate bacterial activity. This appears to be true of acriflavine.[14] An inadequate dose may also cause the organisms to develop increased tolerance for the disinfectant, so that subsequent injections, even though increased, may fail to affect the course of the disease. Under such conditions, certain trypanosomes become "arsenic fast." [15] Too large a dose may unfavorably affect the condition of the host to such an extent that a few organisms surviving the antiseptic may cause a relapse. Dyes may have such an effect as a result of either the acidity of the solution or the toxicity of the dye. Both are subject to control. The body of the host may increase or decrease the action of the antiseptic. The bactericidal action of the dyes, with the possible exception of acriflavine, is decreased in blood in vitro. The host appears to be an essential factor in the action of arsphenamine on spirochetes, not by acting on the spirochetes but by altering the arsphenamine. A disinfectant may act, not by destroying the parasites, but by affecting the host. The value of "Bayer 205" in spirochete infections appears to be due to its action on the host rather than on the spirochetes. A disinfectant may be effective against one parasite and not against others. This necessitates identification of the organism and selection of the disinfectant. The action of the dyes varies with the organism.

Experimental work has shown that there is an increased bacteriostatic action of the blood following the intravenous injection of gentian violet and mercurochrome. No bactericidal action has been demonstrated. The dye circulates in the blood stream for only a few minutes. It appears that the host must play a part if the organisms are to be destroyed. Elimination of the parasites from the body apparently depends on the combined action of the disinfectant and the defensive mechanism of the host. The disinfectant in the blood stream does not reach all the organisms in the body in septicemia. The defensive mechanism of the host must destroy those not reached by the disinfectant and possibly take part in the destruction of those reached by the disinfectant. The disinfectant at best is merely an aid. The part played by the disinfectant and the part played by the host should be kept clearly in mind, and a failure on the part of the host should not be attributed to the disinfectant.

Our experiments failed to demonstrate an increase in the bacteriostatic action of the blood, following the injection of acriflavine. At the time our test tube experiments were failing to demonstrate an increase in the bacteriostatic action of the blood in rabbits, we had an opportunity to determine the effect of the intravenous injection of gentian violet and acriflavine in sheep suffering with anthrax septicemia. The first eight sheep becoming infected with anthrax died within twenty-four hours. Eleven other sheep became infected, and all received intravenous injections of methyl violet or acriflavine. All but one recovered. Unquestionably, more of these animals would have died if the dyes had not been injected.[16]

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[11] Spencer, Harvey: Effects of the Intravenous Injection of Acriflavine, J. Lab. & Clin. Med. **9:** 322 (Feb.) 1924.

[12] Meleney, F. L., and Zau, Zung-Dau: Action of Acriflavine on the Blood and Certain Tissues of Rabbits, J. A. M. A. **84:** 337 (Jan. 31) 1925.

[13] Hill, J. H., and Colston, J. A. C.: A Note on the Intravenous Administration of Mercurochrome on the Bacteriostatic Action of Blood, Bull. Johns Hopkins Hosp. **34:** 372 (Nov.) 1923.

[14] Neufeld, F.; Schiemann, O., and Baumgarten: Abstr. Bacteriol. **5:** 72.

[15] Burke, Victor; and Skinner, Horace: Resistance of Bacterial Spores to the Triphenylmethane Dyes, J. Exper. Med. **41:** 471 (April) 1925. Saelhof, C. C.: Acquired Tolerance of Gonococci in Culture to Mercurochrome-220 Soluble, J. A. M. A. **84:** 1267 (April 25) 1925.

In view of the facts brought out in the foregoing discussion and of the many favorable reports concerning the dyes as blood antiseptics, we should not be hasty in condemning them, as has been done by some experimenters and clinicians. We should attempt to explain the failures. The experimental work described in the paper suggests that some failures at least are due to improper preparation and application of the dye solutions.

Much experimental work remains to be done before dye therapy can be considered on a sound scientific basis. Clinical reports are of great value as a guide to the research worker, as they indicate to some extent wherein the treatment fails. They should not, however, unless in great number, have much weight in estimating the value of dye therapy. This is particularly true when they are not in agreement, as is the case at the present time. The divergent results obtained simply indicate that certain factors not adequately understood must be determined and controlled or eliminated before an accurate estimate can be made of the value of dyes as blood disinfectants.

SUMMARY AND CONCLUSIONS

1. The value of gentian violet solutions for intravenous injection in septicemia varies with the method of preparing the solution. The toxicity, bactericidal action, stability and hydrogen ion concentration determine the value of the dye solution, and these vary with the solvent.

2. The conflicting results obtained in dye therapy are probably due in part to variations in the dye solutions. Standardizing the technic should reduce the number of unfavorable results.

3. Elimination of bacteria from the blood stream depends on the action of both the dye and the defensive mechanism of the host. The dye checks but does not destroy the bacteria in the blood stream. It has less effect on the organisms in the body outside the blood stream. Variations in the defensive mechanism of the host probably account for some of the failures attributed to dye therapy. The dye is at best only an aid. If not properly applied, it may be valueless or detrimental.

4. The hydrogen ion concentrations of gentian violet solutions prepared with various solvents were determined. The addition of gentian violet to a solvent increases the acidity. The acidity usually increases on standing.

5. The amount of dye going into solution varies with the solvent.

6. Gentian violet solutions should be freshly prepared. The hydrogen ion concentration, bactericidal action and toxicity are subject to change on standing, depending on the solvent.

7. The reaction of gentian violet solutions should be as near the neutral point as possible; the more alkaline the solution, the less the toxicity and the greater the bactericidal action, provided decomposition has not occurred. The nature of the dye prevents the preparation of a stable alkaline solution.

8. Dye solutions should not be sterilized by heat. The dye has sufficient antiseptic power to make sterilization unnecessary. Sterilizing the solvent before the dye is added is unnecessary. Heat affects the hydrogen ion concentration of most solvents.

9. The comparative values of six different solvents for the preparation of gentian violet solutions were determined. Of these, physiologic sodium chloride solution and Locke's solution proved unsatisfactory. The advantages and disadvantages of the other four solvents used are as follows:

Distilled water takes the largest percentage of the dye into solution, and the solution is stable for months. The bactericidal action is satisfactory. Distilled water is usually acid, and the dye solution is comparatively more toxic for rabbits.

Tap water is usually more alkaline, varying with the locality, than distilled water. Our tap water-dye solutions were stable for a number of days. The bactericidal action is satisfactory.

A 3 per cent sodium bicarbonate-dye solution proved to be more alkaline and decidedly less toxic than the other dye solutions. The bactericidal action is satisfactory. This dye solution decomposes rapidly and should be freshly prepared and injected immediately. The sodium bicarbonate should be added after the dye is in solution.

A buffered distilled water solution (0.300 Gm. of potassium dihydrogen phosphate and 0.387 Gm. of dipotassium hydrogen phosphate to 100 cc. of distilled water) is a very satisfactory solvent for gentian violet. The hydrogen ion concentration is near neutrality, the bactericidal action is satisfactory, and the dye solution is comparatively stable. This dye solution is more toxic than the sodium bicarbonate dye solution, and less toxic than the distilled water dye solution.

The choice of a solvent for gentian violet lies between the sodium bicarbonate and the buffered solvents.

10. The toxic effect of gentian violet injections is cumulative. The maximum dose should not be repeated too frequently.

11. The maximum dose will vary with the solvent.

12. There is no increase in the bactericidal action of rabbit blood for *Staphylococcus albus* following the intravenous injection of 11 mg. per kilogram of a gentian violet solution prepared with buffered distilled water.

13. There is an increase in the bacteriostatic action of rabbit's blood for *Staphylococcus albus* following the intravenous injection of 11 mg. per kilogram of a gentian violet solution prepared with buffered distilled water. No increase in the bacteriostatic action for *Bacterium coli* was demonstrated.

Numerous factors must be taken into consideration in estimating the value of dye therapy in septicemia.

Food and Nutrition.—Health, energy and well being depend very greatly on the quality of the food served and on the quantity consumed. Who knows how many nervous breakdowns, how many unhappy homes, are the result of ill prepared, poorly balanced food which helped to lower the vitality? Who can tell how many illnesses had their beginning in inferior cooking? How many worth while plans were never perfected, because their foundation could not be built securely by a body and mind starved on imitation foods? These are memorials which are not placed in archives.—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 9.

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[16] Burke, Victor; and Rodier, E. A.: Value of Dyes in the Treatment of Anthrax Septicemia, J. Am. Vet. M. A. 68: 232, 1925.

SINUS RESPIRATORY ARRHYTHMIA IN CHILDREN WITH RHEUMATIC HEART DISEASE *

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The normal child's heart shows sinus respiratory arrhythmia. The absence of this arrhythmia is looked on as evidence of heart injury, and its presence is considered by some investigators [1] as sufficient proof that the child's heart is not damaged.

My observations on children with rheumatic heart disease do not confirm the opinion that the presence of sinus respiratory arrhythmia is evidence of a normal heart. In my experience, this form of arrhythmia is absent only in the most serious cases of heart disease.

To illustrate my experiences, I analyzed the findings in a small unselected group of 100 cases, all of them showing rheumatic heart disease with valvular injury and severe enough to be bed cases in the hospital. Eighty of the 100 cases showed sinus respiratory arrhythmia evident enough to be easily detected on simple auscultation.

However, as indicated in the accompanying table showing the greater incidence of enlargement, rapid pulse, activity, decompensation while in bed, and extent of injury, the subgroup of twenty patients without arrhythmia presented far more severe forms of the disease.

Comparison of Findings in Rheumatic Heart Disease in Children With and Without Sinus Respiratory Arrhythmia, Showing Greater Incidence of Injury in Former

	In the 80 Cases Showing Arrhythmia	In the 20 Cases Not Showing Arrhythmia
Enlargement	59 per cent	100 per cent
Activity	50 per cent	84 per cent
Pulse rate over 100	38 per cent	80 per cent
Decompensation	14 per cent	70 per cent
More than simple mitral damage	15 per cent	65 per cent
Cases showing all five of these characteristics	1.25 per cent	50 per cent
Cases showing four of these five characteristics	5 per cent	85 per cent

The greater seriousness of the cases showing no arrhythmia is brought out even better by a comparison of the subsequent course of the disease in the two subgroups. Of the twenty children without arrhythmia, seven died within a year; seven more developed complications or further heart injury or became worse in some way after discharge and had to be readmitted to the hospital; two more were getting worse; only one was doing well, and the other three did not return. Of the eighty children with arrhythmia, I heard of none who died, returned to the hospital, or became worse. No special search was made to follow up either group; the data as it came to us were striking enough.

The prognostic significance of the absence of respiratory arrhythmia was especially impressive in the six children showing no evidence of decompensation while in bed and presenting no evidence of a bad prognosis other than the absence of respiratory arrhythmia. Five of these children, after appearing to show some temporary improvement, eventually presented an actively progressive form of the disease. One of the five, when first seen as an outpatient, did not seem to be in bad enough condition to warrant admitting him as a house patient, but he soon became worse, entered the hospital, and died.

The absence of this arrhythmia in the very serious cases is difficult to explain. Active heart disease—rheumatic, or subacute bacterial—or congestive failure may cause more or less constant sympathetic stimulation which prevents sinus arrhythmia. At any rate, while the absence of sinus respiratory arrhythmia in children does not distinguish those having heart disease from those not having it, it is evident that it indicates a bad prognosis.

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* From the House of the Good Samaritan.

[1] Mackenzie, James: Diseases of the Heart, London, 1918; Principles of Diagnosis and Treatment in Heart Affections, London, 1918.

THE ASSOCIATION BETWEEN DIABETES MELLITUS AND CHRONIC INFECTIOUS ARTHRITIS *

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AND
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Pemberton [1] noted that patients with chronic arthritis seemed to improve when they were given diets low in carbohydrate, and were made worse by diets high in carbohydrate. From this he concluded that patients with diabetes should be comparatively free from arthritis because of the fact that their disturbed metabolism of sugar demanded prolonged diets low in carbohydrate. In his own experience, and in that of Allen and Joslin, diabetes and arthritis only rarely were associated. This has not, however, been our experience. During the last year at the Mayo Clinic, we have seen 474 patients with diabetes; fifty-one of these (10.8 per cent) who had well defined but, as a rule, comparatively mild diabetes had arthritis. They were all given a diet in which the available glucose did not exceed 140 Gm., and were kept in the hospital under careful supervision for at least two weeks on their first visit to the clinic. During these two weeks they were given instructions with regard to their diets, to which most of them were able to adhere. There is no absolute certainty that the restrictions in diet were adhered to when the patients were at home, but at the time of their yearly or half-yearly reexaminations, there was no indication of serious indiscretion.

Considered solely from the standpoint of the changes of the joints, this group of patients exhibited the usual lesions of chronic arthritis. The coexisting diabetes could not be said to have produced changes peculiarly characteristic. Most of the patients had the so-called hypertrophic arthritis, usually situated in the joints of the spine.

The infection in the joints of these patients was treated by the usual measures, and all foci of infection, including those in the cervix and prostate, were treated surgically or medically. Exercise of the affected joints, baking, massage and diathermy were carried out.

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* *From the Division of Medicine, Mayo Clinic.*

[1] Pemberton, Ralph: The Metabolism and Successful Treatment of Chronic Joint Disease: a Preliminary Report, Am. J. M. Sc. **144:** 474-494, 1912; The Metabolism, Prevention and Successful Treatment of Rheumatoid Arthritis: Second Contribution, ibid. **146:** 895-905, 1913; **147:** 265-287 and 423-435, 1914; The Metabolism and Treatment of Rheumatoid Arthritis, Third Paper, ibid. **151:** 351-377, 1916; Fourth Paper, ibid. **153:** 678-692, 1917; The Nature of Arthritis and Rheumatoid Conditions, J. A. M. A. **75:** 1759-1765 (Dec. 25) 1920; The Use of Diet in the Treatment of Chronic Arthritis, Am. J. M. Sc. **161:** 517-525 (April) 1921.

Bertram[2] believes in the beneficial effects of foreign protein reaction in cases of diabetes and chronic arthritis, but we have not felt justified in subjecting diabetic patients to the procedure.

There is no remarkable difference in the response of patients with uncomplicated arthritis treated according to the foregoing measures, which do not include the low carbohydrate diet, and patients who are compelled to eat a diet low in glucose.

SUMMARY

Not infrequently diabetes and arthritis are associated. No noticeable improvement seems to occur in arthritic symptoms in consequence of the low carbohydrate regimen necessary in the presence of diabetes.

ERYSIPELOID AND SWINE ERYSIPELAS IN MAN

A CLINICAL AND BACTERIOLOGIC REVIEW; SWINE ERYSIPELAS IN THE UNITED STATES *

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Tilbury Fox[1] was apparently the first to describe what is now generally designated as erysipeloid. In 1873, he briefly described two instances of an eruption clinically conforming with that disease. In the same year Monant Baker[2] under the name of erythema serpens described a number of cases occurring exclusively on the hands of cooks and butchers, and on those handling game and rabbit skins. His description of the eruption was essentially the same that Rosenbach subsequently described.

Rosenbach aptly designated the eruption as erysipeloid (now generally known as erysipeloid of Rosenbach) and published in 1884[3] and in 1887[4] the results of his study. He described the eruption as an erysipelas-like affection, frequently encountered in cooks, kitchen workers, butchers and those who handle game and fish, and in shopkeepers who handle cheese or herring, manifesting itself chiefly about the fingers and hands, and characterized by a slowly progressing, sharply defined, slightly elevated, dark violaceous, almost livid red zone which develops around the site of inoculation. The area of redness extends peripherally as the control portion fades away without desquamation. The eruption is accompanied by a sensation of burning, pricking or itching, without constitutional symptoms or involvement of the lymphatics or glands. Spontaneous recovery usually ensues in one, two or three weeks.

From one of his patients who acquired the disease from handling foul cheese, Rosenbach obtained, by taking a culture of an excised portion of the skin, a pure culture of coccus-like bodies, somewhat larger than staphylococci; older cultures underwent mutation and appeared as a closely woven mass of branching fine threads. At this time Rosenbach regarded the organism as *Cladothrix dichotoma,* but from studies conducted some years later he no longer maintained this opinion.[5] With a pure culture of this organism Rosenbach produced on his own arm a typical erysipeloid eruption.

Rosenbach's findings[6] have been confirmed by Felsenthal,[7] who recovered the organism from three out of four patients with erysipeloid. He took cultures from a portion of the skin[8] in liquid gelatin and obtained a coccus larger than the staphylococcus. In older gelatin cultures the organism was seen as threads. Felsenthal noted the resemblance of the organism to that of swine erysipelas. Ohlemann,[9] employing the same technic, likewise recovered the organism from patients with erysipeloid. In addition, he produced typical erysipeloid on his own arm with an old stock culture of the organism originally obtained from a patient with the disease. In a histologic section of the experimentally produced erysipeloid, he demonstrated the organism in the corium.

SALIENT CLINICAL FEATURES OF ERYSIPELOID

From the reports of Rosenbach,[4] Lehnhartz,[10] Tavel,[11] Gilchrist,[12] Lexer,[13] Ohlemann[9] and Reich[14] the following are the salient clinical features of erysipeloid of Rosenbach: The disease is most frequently seen during the period from May to September. Invariably, the infection can be traced to contact (in many cases through a puncture wound) with dead animal matter of divers nature, and in all but six of Gilchrist's 329 cases, to crab bites or other contact with crabs. The incubation period ranges from one to five days. A distinctive feature of the erythema is its purplish red color. The disease is confined almost exclusively to the hands; it rarely progresses above the wrist, and if so, only for a short distance. Only a few instances of the disease occurring in other parts (soles, face and neck) have been observed by Gilchrist, Lexer and Lehnhartz. The surface of the involved parts remains smooth; no papules, vesicles or other lesions appear. The subjective symptoms are sensations of burning, pricking, some itching and pain (which may radiate up the arm). In exceptional cases the latter two symptoms are marked. Lymphangitis and glandular involvement is rare. Suppuration has not been observed in the reported cases. Tavel[15] alone reports in three patients the occurrence of fever and constitutional symptoms, considerable swelling of the involved area with pain, lymphangitis and glandular involvement.

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[2] Bertram, Ferdinand: Zur Caseosantherapie des Diabetes, Ztschr. f. d. ges. exper Med. **43:** 442-448, 1924.

* From the Research Institute of Cutaneous Medicine.

[1] Fox, Tilbury: Diseases of the Skin, Ed. 3, London, 1873, p. 108.

[2] Baker, W. M.: Erythema Serpens, St. Bartholomew's Hosp. Rep. **9:** 198-211, 1873.

[3] Rosenbach, F. J.: Mikroorganismen bei den Wundinfektionskrankheiten des Menschen, 1884.

[4] Rosenbach, F. J: Ueber das Erysipeloid, Verhandl. d. deutsch. Gesellsch f. Chir. **16:** 75, 1887.

[5] To be referred to later under the head, The Organism of Swine Erysipelas, of Erysipeloid and of Mouse Sepsis

[6] In 1885, Cordua (Deutsch. med. Wchnschr. **33:** 576, 1885) under the name of erythema multiforme reported 127 characteristic cases of erysipeloid. From an excised portion of the skin from one of his patients he obtained a pure culture of a coccus, which was larger than the staphylococcus. The organism was in all probability the same one that Rosenbach previously described.

[7] Felsenthal, S.: Beitrag zur Aetiologie und Therapie des Erysipels und des Erysipeloids, Arch. f. Kinderh. **16:** 221-236, 1893.

[8] To demonstrate the organism from cases of erysipeloid it appears necessary to obtain cultures from an excised portion of the skin. Those who reported negative attempts to recover the organism did not take cultures from the skin. An exception, however, is the report of Reich (Footnote 14).

[9] Ohlemann, J.: Beitrag zur Kenntnis des Erysipeloids und dessen Aetiologie, Inaug. Dis Göttingen, 1904.

[10] Lehnhartz: Erysipelas (Rose, Rotlauf) und Erysipeloid, in Nothnagel: *Spezielle Pathologie und Therapie* **3,** 1899.

[11] Tavel: Das Erysipeloid, Deutsch. Ztschr. f. Chir. **61:** 528-544, 1901.

[12] Gilchrist, T. C: Erysipeloid, with a Record of 329 Cases, of Which 323 Were Caused by Crab Bites or Lesions Produced by Crabs, J. Cutan. Dis. **22:** 507-519, 1904.

[13] Lexer: Handbuch der allgemeine Chirurgie, 1903 and 1908.

[14] Reich, M.: Ueber das Erysipeloid, Wien. klin. Wchnschr. **21:** 352-357, 1908.

[15] Some writers point out that the cases of Tavel were not pure types of erysipeloid but, in all probability, were complicated by secondary pyogenic infection. The possibility of the cases being instances of swine erysipelas in man has been suggested.

A relapse of the erythema has not infrequently been observed. The disease disappears spontaneously in from five days to four weeks or longer, without desquamation.

ERYSIPELOID AMONG FISHERMEN

In cooperation with Dr. L. L. Righter of Seaside Park, N. J., I studied a number of cases of erysipeloid occurring on the hands of fishermen engaged in the fishing industry (fish pounds) along the eastern Atlantic seaboard.[16] The disease causes a high morbidity rate and is the principal cause of disability among these men.

Clinically, there is erythema, at first localized to one finger, appearing in the majority of cases at the site of a puncture wound incident to the bite of a fish, or to the prick from the scales or fin of a fish. The erythema progresses, involving the palm or dorsum of the hand. Pain, which is considerable, is a characteristic feature. Lymphangitis and glandular enlargement is frequently present, appearing with or without suppuration. Suppuration is common; it is localized at the site of the puncture wound and is very scanty—one or two drops of pus may be obtained through a deep incision. We observed recurrence of the erythema after apparent recovery; we also noted constitutional symptoms with fever. The disease runs a course of from three to four weeks.

It is to be recalled that these fishermen handle only live fish as they are removed from the nets, and again from the boats into baskets. Apparently, the disease is more likely to result from contact with very slimy fish. In addition to the disease appearing at the site of the aforementioned type of puncture wound, we have noted its appearance in the absence of a history of trauma and the absence of evidence of such. The eruption has also been observed on the skin of the body at the site of trauma inflicted through the soiled fishing clothes of the patient, and also at the site of friction and presence of the soiled clothes as, for example, on the skin of the arm beneath rolled up sleeves.

We are not acquainted with any recorded description of this type of erysipeloid among fishermen, which differs as to the severity of symptoms and the presence of suppuration from that of the aforementioned type of erysipeloid of Rosenbach. As will be shown later, the symptoms of this type of erysipeloid approach those of swine erysipelas in man.

The clinical picture of the disease is not that of cellulitis. It is possible that suppuration may arise from a secondary pyogenic infection. The fact that the disease is so intimately associated with the handling of fish, together with certain distinct clinical features, justifies placing it in the erysipeloid group.

SWINE ERYSIPELAS: ITS OCCURRENCE IN MAN AS AN ERYSIPELOID ERUPTION

Swine erysipelas[17] is an acute septicemic infectious disease of young hogs caused by a fine rod shaped bacterium—*B. erysipelatis-suis* (Fig. 1). The disease occurs everywhere on the European continent and is widely spread in Germany. It causes considerable financial loss.

The disease is manifested in the three following forms: A mild form, urticaria (diamond skin disease), characterized by slight constitutional symptoms and the presence of sharply circumscribed, rounded, quadrangular or rhomboidal spots on the skin, warm to the touch, and dark red or violet; a severe form, erysipelas septicemia, characterized by constitutional symptoms of septicemia and the presence of a diffuse erythema, areas of which may become gangrenous; a chronic form, chronic erysipelas, endocarditis, occurring in animals that have recovered from the acute infection, particularly characterized by polyarthritis and symptoms referable to what is a distinctive pathologic finding, a vegetating type of endocarditis.

Since Hillebrand[18] and Mayer[19] first reported in 1899 the occurrence of swine erysipelas in man, an ever increasing number of cases has been notably reported in the German medical and veterinarian literature.

Swine erysipelas in man has been most frequently observed in veterinarians, accidentally inoculated through a prick of the needle when immunizing swine against the infection with the serum of swine erysipelas and a small quantity of virulent culture. In ninety-seven cases compiled by Ders[20] from 1901 to 1912, sixty-eight patients were inoculated from culture in the aforementioned manner or from handling the culture among laboratory workers; thirty-two cases were traced to infected meat and were observed in butchers, farmers, meat inspectors, cooks and others handling such meat; in the remaining seven cases the source of the infection could not be traced.

In the majority of patients, the disease appears at a site of injury involving the fingers or hands. The incubation period in swine is three days; in man, however, it ranges from one to four days. The symptoms are those of erysipeloid, already enumerated, with the exception that they are much more severe, the swelling is much greater, so that the fingers frequently become mobilized; the itching, burning and pain are considerable, the latter often preventing sleep. Lymphangitis and glandular involvement are frequently present. The disease frequently extends above the wrists, involving the forearms and arms.[21] As evidence of a blood infection, Duttmann[22] records three cases in which the disease first appeared on one hand, and subsequently appeared on the other hand and later on both feet. More recently, Axhausen[23] and Rahm[24] described a characteristic arthritis of the finger joints as a complication of the disease as it is usually manifested. In some of Rahm's cases, the arthritis existed without skin change. Constitutional symptoms and fever are rarely observed. Suppuration is absent. The course of the disease is about four weeks.

The differential diagnosis from erysipeloid is, in some cases, difficult. The following considerations serve to make such diagnosis: the history of handling culture; recent contact with hogs or the flesh of hogs, the severity of the symptoms; the greater incidence of lymphangitis and glandular involvement; the greater likelihood of the disease extending above the wrist.

The organism is obtained by taking cultures (in bouillon) of an excised piece of the involved skin. It is interesting to note that Rahm failed to demonstrate the organism in the blood and serum from an incision into the involved skin but demonstrated it by taking cultures of a portion of the skin[18] from the same patient.

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[16] A more detailed report of clinical and laboratory studies will be published in collaboration with Dr L L Righter and Dr. M J Harkins.

[17] Quoted from Hutyra and Marek: Pathology and Therapeutics of the Diseases of Domestic Animals (transl by Mohler and Eichorn), Chicago **1**: 66

[18] Hillebrand. Uebertragung des Schweinerotlauf auf den Menschen, Ztschr f Med -Beamte, 1899, pp 544 547

[19] Mayer: Uebertragung des Schweinerotlauf auf den Menschen, Ztschr f Med -Beamte, 1899, pp. 611 612

[20] Ders: Veroffentlichungen aus den Jahresveterinarberichten der *beamteten Tierarzte Preussens, 1900 to 1912, quoted from Rahm*

[21] In a few cases Rahm noted the presence of vesicles and calls attention to the fact that at times vesicles are a part of the cutaneous picture of the disease in swine

[22] Düttmann, Gerhard Schweinerotlauf und Erysipeloid, Beitr z. klin Chir. **123**: 461-469, 1921

[23] Axhausen, G. Zur Diagnostik der Fingergelenkserkrankungen, Klin Wchnschr. **2**: 2197-2198 (Nov 26) 1923

[24]. Rahm, H: Zur Schweinerotlaufarthritis der Fingergelenke, Klin. Wchnschr. **3**: 224 226 (Feb 5) 1924

In histologic sections Düttmann clearly demonstrated the organism in the corium, in the deep part of the pars reticularis. For this reason, in order to obtain a culture of the organism, he points out the necessity of deeply excising a portion of the skin from which cultures are to be taken. Duttmann records the histologic appearance of the disease, which is not especially characteristic and will therefore not be detailed.

The aforementioned described cases of swine erysipelas occurring in man have been compared to the mild form of the same disease in swine—diamond skin disease. Fatal cases of the acute septicemic form of the disease have been reported occurring in veterinarians accidentally infected with a culture of the organism.[25] The patients presented the clinical picture of sepsis, with bluish red lesions on various parts of the body; in some, arthritic pains and evidence of endocarditis.[26] Prausnitz's[27] case is of interest. In a patient with the clinical picture of sepsis, blood culture disclosed the bacillus of swine erysipelas. The patient succumbed. The source of the infection was undetermined.

The chronic form of the disease as it is seen in swine is apparently very rare in man. Rahm[24] enumerates it as one type of the disease in man, characterized by endocarditis and polyarthritis.

It is interesting to note that the bacillus of swine erysipelas has an affinity for the skin. An oral infection from eating infected meat of swine is apparently very rare, although many opportunities have been doubtless afforded for such infection. Rahm[25] states that in children an oral infection with the bacillus of swine erysipelas has been observed which produces an obstinate intestinal disorder. Again, Lubowski[28] found the organism in large numbers in the stool of an icteric boy who had a mild intestinal catarrh. The organism was pathogenic to mice. The injection of the serum of swine erysipelas protected mice against lethal doses of the organism. Its identity was thus proved.

A specific treatment of swine erysipelas in man consists in the employment of from 1 to 2 c.c. of the serum of swine erysipelas per kilogram of body weight, injected intramuscularly. Following its use there is a rapid subsidence of the symptoms and disappearance of the lesions. A second injection is rarely necessary.

ERYSIPELOID AND SWINE ERYSIPELAS: THE QUESTION OF IDENTITY OF THE TWO DISEASES

It is the consensus of the German observers[29] that erysipeloid and swine erysipelas are identical diseases, that erysipeloid is only a mild form of swine erysipelas. The organisms identified with the two diseases are likewise regarded as identical, differing only as to virulence.

From the typical cases of erysipeloid of Rosenbach, Rahm,[30] Schmidt[31] and Düttmann[22] demonstrated, by taking cultures of an excised portion of the involved skin, an organism indistinguishable from the bacillus of swine erysipelas. Acel[32] took cultures of a portion of the skin from five patients presenting the clinical picture of erysipeloid, in which there was no history of recent contact with swine or the flesh of swine. The organism obtained was at first a gram-positive coccus but later appeared as a gram-positive rod (confirmation of Rosenbach's original finding), which was regarded as the bacillus of swine erysipelas. Agglutination tests with serum from all the patients, conducted separately with cultures of the bacillus of swine erysipelas, yielded positive results.

SWINE ERYSIPELAS IN THE UNITED STATES[33]

According to Dr. John S. Buckley,[34] chief of the Pathologic Division of the Bureau of Animal Industry, United States Department of Agriculture, the existence of swine erysipelas in this country was first demonstrated in 1920, through investigations made in his department. Since that time a considerable number of cases have been found,[35] both acute and chronic. He states that it is not definitely known at present (March, 1925) just what the extent of the disease is in the United States. It is thought, however, that swine erysipelas is not very widespread, confined more or less to sporadic outbreaks occurring in a limited number of animals in different sections.

There are no recorded instances of swine erysipelas in man occurring in this country. However, in view of the existence of the disease, in both the acute and the chronic form, among swine in this country, it is logical to expect its appearance in man.[36]

ORGANISM OF SWINE ERYSIPELAS, OF ERYSIPELOID AND OF MOUSE SEPSIS; QUESTION OF IDENTITY OF THE THREE ORGANISMS

Clinically, infection with the organism of swine erysipelas and of erysipeloid is characterized by progressive inflammation with peculiar reddening. The clinical picture differs only as to severity of the symptoms.

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[25] Rahm, H: Der Schweinerotlauf beim Menschen Beitr z klin. Chir. **115**: 664 677, 1919. Gunther, G · Schweinerotlauf beim Menschen, Wien klin. Wchnschr. **35**: 1318-1320, 1912.

[26] In a fatal case mentioned by Gunther, necropsy findings showed endocarditis and myocardial degeneration

[27] Prausnitz, C.: Bakteriologische Untersuche uber Schweinrotlaut Beim Menschen, Zentralbl. f. Bakteriol. **85**: 362-365, 1921

[28] Lubowski, R.· Befund von Schweinerotlaufbazillen im Stuhle eines ikterischen Kindes, Deutsch. med. Wchnschr. **27**: 116, 1901.

[29] In addition to references cited, Diemer, T.: Zur Frage des Erysipeloids, Klin. Wchnschr. **2**: 1022 1024 (May 28) 1923 (bibliography).

[30] Rahm, H · Zur Diagnose des Schweinerotlauf, Med. Klin. **18**: 1217-1218 (Sept 17) 1922.

[31] Schmidt, Erich: Der Schweinerotlauf beim Menschen, Beitr. z. klin Chir. **123**: 471-479, 1921

[32] Acel, D · Zur Aetiologie des Erysipeloids, Deutsch. med Wchnschr. **50**: 988 (July 18) 1924.

[33] Dr George Hilton, veterinary director general of Canada, informs me that his department has no official statistics of the disease in swine in Canada

[34] A personal communication to the author.

[35] The following references give detailed information relative to the disease in swine in this country

Creech, G T.. The Bacillus of Swine Erysipelas Isolated from Urticarial Lesions of Swine in the United States, J. Am Vet A. **59**: 131, 1921.

Ward, A R.: The Etiology of Polyarthritis in Swine, J. Am. Vet. A. **61**: 155, 1921.

Gitner, L T A Fatal Disease of Young Pigs Apparently Caused by the Bacillus of Swine Erysipelas, J. Am Vet A. **61**: 540, 1922. This report concerns the finding of bacillus of swine erysipelas in a pig succumbing to the acute septicemic form of the disease.

Parker, J W., et al · Porcine Erysipelas, J. Am. Vet A. **61**: 451, 1924 This report concerns observations as to the occurrence of the disease among swine at one of the large packing houses In a period of three months, 110 cases based on objective manifestations [illegible] steen cases studied bacteriologically, the [illegible] in ten

[36] [illegible] resting to recall the report of Libman and Sacks (A Hitherto Undescribed Form of Valvular and Mural Endocarditis, Arch. Int Med. **33**: 701-732 [June] 1924) of four patients presenting the clinical picture of an acute febrile infection with polyarthritis and cutaneous manifestations of particular interest. Two of the patients showed an erythematous eruption on the face which resembled acute lupus erythematosis and erythematous lesions elsewhere In one of these patients there was bluish discoloration of the involved joints One patient showed erythema and induration of the forearm; later, the skin over certain joints was a peculiar red. Necropsy in all the patients disclosed, among other findings, a verrucose endocarditis of a peculiar type. The thought of acute swine erysipelas in man is doubtless an appropriate one in these cases However, such infection was excluded by the thorough bacteriologic studies, which were entirely negative.

Human infection with the bacillus of mouse sepsis is unknown. In bacteriologic studies, and in their pathogenic properties, the three organisms strikingly resemble one another. Indeed, much controversy has been waged among German workers as to whether the three organisms are not identical, differing only as to virulence.

Prettner[37] regards mouse sepsis bacillus as an attenuated form of swine erysipelas bacillus, the passage through mice accounting for its decreased virulence in swine. In this regard it is interesting to recall that Pasteur observed that the bacillus of swine erysipelas, when inoculated into rabbits, became less virulent to swine. Indeed, this led to the Pasteur method of immunizing swine against swine erysipelas.

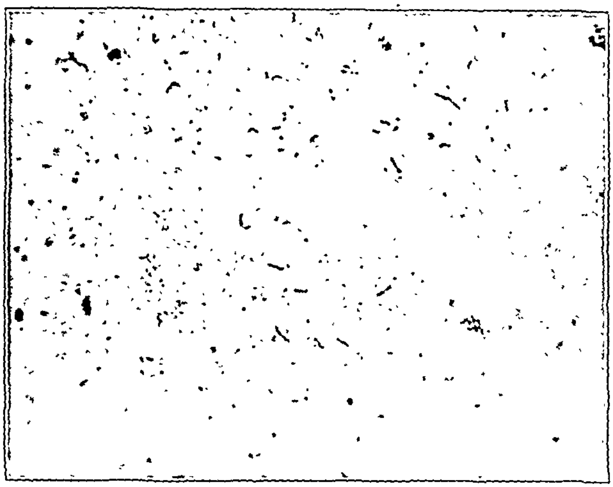

Fig. 1.—The bacillus of swine erysipelas—straight and slightly curved rods. Smear prepared from a bouillon culture stained with carbolfuchsin. Culture obtained from Dr. John S. Buckley, Bureau of Animal Industry (originally obtained from Professor Jensen of Copenhagen). The organism is a slender, straight or slightly curved, nonmotile bacilli, from 1 to 1.5 microns long. It is gram-positive. It is aërobic as well as anaërobic and grows in cultures as long rods or curved threads. It grows best in a gelatin culture at 68 F. On gelatin plates the cultures form whitish, cloudy, very fine flakes with coarse granular centers. *In gelatin stab cultures, grayish white cloudy colonies* appear from which horizontal radiating branches grow (test tube-brush shape). On agar and on blood serum, very fine, punctiform, dew drop-like colonies appear. The bouillon is made slightly cloudy; later a fine, flaky sediment forms. The culture of bacillus of swine erysipelas studied was nonpathogenic to white mice, mice, rabbits and guinea-pigs (doubtless through continued cultivation), although the organism is highly pathogenic to white mice and to pigeons. According to others, the organism is highly resistant. Drying kills them very gradually, as they remain alive when subjected to a temperature of 37 C. for thirty-one days, and to direct sunlight for twelve days. Pieces of meat not over 15 cm. thick require two and one-half hours' boiling for a complete sterilization. Salting and pickling destroys the organisms very slowly; meat and bacon may contain virulent bacilli after lying in pickle for 170 days.

According to Libbertz and Ruppel,[38] erysipeloid cultures behave serologically just like swine erysipelas bacilli; that is, the agglutination titer is identical, and swine erysipelas serum immunizes against and affects therapeutically both infections.

Lorenz[39] regards the two organisms as different from the cultural differences which he observed. Preisz[40] at first took a similar view founded on five morphologic differences that he observed, but later concluded that the organisms are identical, despite morphologic and cultural differences. In Jensen's[41] opinion, there are no basic differences between the two organisms.

In Rosenbach's[42] study, the organisms of swine erysipelas, of mouse sepsis and of erysipeloid exhibited serologic and toxic similarity. He observed cultural and morphologic differences, which for lack of space will not be detailed. The growth of the three organisms, as observed by Rosenbach, was composed of a network of filaments, with chain forms; regular branching and thickening of the fibers, with formation of granules and clear spots, were also observed.

From these morphologic differences Rosenbach concludes that the three organisms are distinct. In view of the aforementioned characteristics he groups them as the erysipelas filaments, or *Erysipelotricheae;* viz., *Erysipelothrix porci, Erysipelothrix erysipeloids* and *Erysipelothrix murisepticus.*

Rickmann,[43] from the examination of a large number of cultures of the bacillus of swine erysipelas obtained from swine dying of the disease, states that the cultural and morphologic differences enumerated by Rosenbach are not maintained when a large number of cultures are studied.

Rickmann noted that swine erysipelas serum has the same agglutination titer against the organism of the three diseases. He believes that the three organisms are identical, but modified in virulence and somewhat in morphology through prolonged passage, respectively, in man, swine and mouse. Concerning a laboratory differentiation of the three organisms, Rickmann does not believe such differentiation possible.

OTHER ERYSIPELAS-LIKE ERUPTIONS, NOT TRUE ERYSIPELOID: REPORT OF CASES

Eruptions are occasionally seen that resemble what is designated as erysipeloid but do not conform in all respects to this disease. The eruptions appearing on the patients whose case histories follow were of this character; they lacked the purplish blue of erysipeloid and, furthermore, in one of the cases, the eruption disappeared with desquamation.

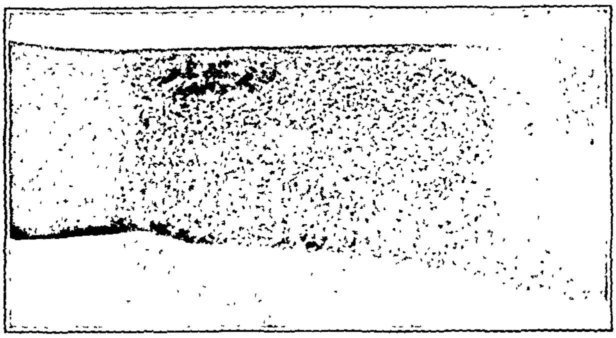

Fig. 2 (Case 1).—An erysipelas-like eruption, not true erysipeloid. The patient was a nurse; the eruption appeared spontaneously while she was nursing a patient with sepsis. The entire forearm was swollen; deep seated pain was a conspicuous symptom; the eruption lacked the purple red of erysipeloid. It was in all probability bacterial in origin.

Case 1.—*Involvement of both forearms. History.*—A woman, aged 24, prior to the appearance of the eruption, nursed a patient with puerperal sepsis. She could not recall injuring, pricking or traumatizing the skin of the involved area, nor was she handling dead matter of any kind.

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[37] Prettner: Ueber die Identitat des Bacillus Murisecpticus und des Erysipelatis Porci, Berl. tierarztl. Wchnschr., 1901, p. 669; quoted by Rosenbach (Footnote 42).

[38] Libbertz and Ruppel, quoted by Rosenbach (Footnote 42).

[39] Lorenz: Beobachtungen uber die Mikro-Organismen des Schweinerotlaufs und verwandter Krankheiten, Arch. f. wissensch. u. prakt. Tierh. **18:** 38, 1892.

[40] Preisz, H.: Beitrage zur Kenntnis des Schweinerotlaufs, abstr. Centralbl. f. Bakteriol. **11:** 109, 1892.

[41] Jensen, C. O.: Die Aetiologie des Nesselfiebers und der diffusen Hautrenkrose des Schweines, Deutsch. Ztschr. f. Thiermed. **18:** 1891-1892.

[42] Rosenbach, F. J.: Experimental Morphologshe und klinishe Studien der Erreger des Schweinerotlaufs Erysipeloid und Mausesepttkamie, Ztschr. f. Hyg. u. Infektionskrankh. **63:** 343-371, 1909.

[43] Rickmann: Zur Frage der Identitat der Erreger des Schweinerotlaufs, des Erysipeloids und der Mausesepikämie, Ztschr. f. Hyg. u. Infektionskrankh. **64:** 362-364, 1909.

The eruption started, according to the patient, as a small "red area," involving the middle third of the flexor surface of the right forearm, and gradually spread (Fig. 2). A few days later red blotches appeared on the left forearm (Fig. 3). When I first examined her, six days after the onset, she presented on the middle and upper thirds of the flexor surface of the right forearm a sharply circumscribed patch of erythema, the surface of which was not smooth but scattered here and there with small papules. It was inflammatory. The upper border was raised and concave; the lower border was irregular. The lesion extended around the internal aspect of the forearm and involved most of the extensor surface, almost joining the external border on the flexor surface. The entire forearm was swollen. There was no evidence of a previous trauma; no evidence of suppuration; no lymphangitis, or enlargement or tenderness of the axillary glands.

On the flexor surface of the left forearm there were patches of erythema; some were confluent, producing a blotchy appearance; the surface was smooth. The eruption here was less pronounced than on the right forearm.

Itching was absent; the only complaint was a burning sensation with severe deep seated pain, on account of which she was admitted to the hospital as a patient. During her stay in the hospital (sixteen days) the temperature was normal; there was no leukocytosis; the urine examination was normal and there was no suppuration, lymphangitis or glandular involvement. Deep seated pain was constantly present and interfered with sleep It was out of all proportion to the appearance of the eruption and necessitated the administration of morphin. There was no further progression of the eruption on the right forearm; on the left forearm it progressed until the entire extensor surface was similarly involved. The eruption on both forearms gradually disappeared without desquamation, twenty-three days following its onset Boric acid compresses were the only local treatment applied.

Bacteriologic Studies (by Dr. Claude P. Brown).—A portion of the skin was excised: one half was intended for culture, the remaining half for histologic section. Through a misunderstanding, the entire section was placed in the fixing solution for histologic examination.

An area of the involved skin was cleansed with soap and water, and alcohol. Cultures were made of the serum obtained by scarification, by puncturing and by aspiration on blood agar, serum dextrose bouillon and hormone bouillon. This procedure was repeated three different times. The following organisms were obtained: *Staphylococcus aureus, Streptococcus viridans,* a gram-positive bacillus of the diphtheroid group, a gram-negative bacillus, and a gram-positive coccus not identified. In the aforementioned manner the normal skin was examined one time; a gram-positive bacillus of the diphtheroid group was the only organism obtained. A culture of the throat on two different occasions yielded *Streptococcus hemolyticus* and *viridans, Micrococcus catarrhalis* and a diphtheroid bacillus (not like the one obtained from the skin).

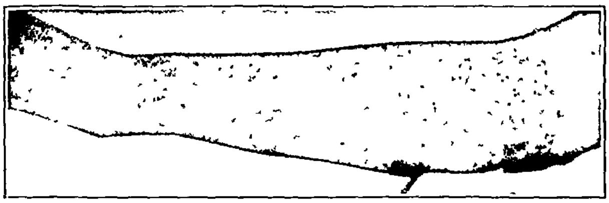

Fig. 3 (Case 1).—Erythema involving the entire extensor surface of the left forearm.

The gram-positive bacilli of the diphtheroid group, after forty-eight hours, showed a raised grayish coloring, with deep indentations of the border, starlike. It was of the solid staining type, no granules and no branching. The organisms were uniform in size, from 1.5 to 2 microns in diameter. They grew sparsely in serum dextrose bouillon, not sufficiently to cause cloudiness. I have never seen this type colony of the diphtheroid bacilli. The organism was not pathogenic to white mice.

Conclusion.—The organisms obtained in this study did not seem of especial significance, with the possible exception of the gram-positive bacilli isolated from the skin. The presence of streptococci on skin is unusual, but no especial significance can be attached to their presence. Staphylococcus was the type normally found on the skin.

Histologic Examination.—A specimen of skin removed from the lesion on the right forearm showed a nonspecific inflammation of the skin. With Gram's stain a few scattered cocci were present.

Case 2.—*Involvement of face.* A woman telephone operator, aged 21, presented on almost the entire right side of the face a bright red patch of erythema (Fig. 4). The surface was intact and smooth, the edges irregular and sharply marginated. The involved area was hot to the touch, slightly swollen, not tender, not painful and not pruritic. The only subjective complaint was a sense of burning. There was no evidence of suppuration, no glandular involvement and no fever. It started, according to the patient, as a small "pimple" in the center of the face and gradually spread. At about this time the scar of an appendectomy became inflamed, tender and later scaly, but soon returned to its normal appearance.

The erythema on the face varied; at times it was scarcely perceptible, but later it became quite distinct. After varying in severity from time to time, it gradually disappeared about three months after its onset. Desquamation preceded its complete involution.

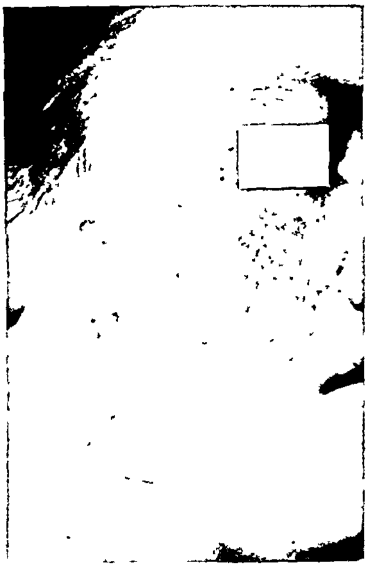

Fig. 4 (Case 2). —An erysipelas-like eruption, not true erysipeloid. A sharply marginated patch of erythema, slowly progressive. The surface was smooth and hot to the touch; the only subjective complaint was burning; the characteristic purple red of erysipeloid was lacking.

A general physical examination was essentially negative, except that the patient was generally below par, appeared tired and complained of easily induced fatigue and anorexia. The only demonstrable focus of infection was badly infected tonsils from which *Streptococcus viridans* was isolated.

COMMENT

The eruption on the forearm conformed clinically with what is designated as erysipeloid, except that it lacked the characteristic purple red and its surface was smooth. The severity of the symptoms approached the symptoms of swine erysipelas in man. Although bacteriologic studies were not conclusive, yet, in view of the nature of the eruption, the circumstances under which it developed and the demonstration of cocci in histologic section, it was in all probability bacterial in origin.

It is not known whether all cases of erysipeloid are due to infection with the bacillus of swine erysipelas, although no other organism has been described. It appears that infection with the bacillus of swine erysipelas produces a distinctive cutaneous picture.

It is conceivable that other organisms produce erysipelas-like eruptions, but it appears that the clinical picture is not that of true erysipeloid.

The eruption on the face was in all probability bacterial in origin. It lacked the purplish red of true erysipeloid, and, furthermore, it disappeared with desquamation. The two eruptions under discussion lacked the distinctive features of an acute eczema (of external or internal origin); they were not cellulitis, and the one on the face was not erysipelas; they were distinctive and erysipelas-like but not true erysipeloid.

1934 Spruce Street.

RECONSTRUCTIVE SURGERY

A CASE OF CONGENITAL ABSENCE OF ARMS

HARRY E. MOCK, M.D.
CHICAGO

This case, in which I operated in 1920, was reported to the Chicago Surgical Society in 1921. I waited a few years to see the anatomic and functional results, before publishing the report. Recently the patient was shown again before the clinic of the Chicago Surgical Society held at St. Luke's Hospital, and some of those present urged that a report of the case should be published. The boy has received considerable mention in the lay press and also in *Hygeia;* therefore, no hesitancy is felt in using his name.

Henry Wiegman was born with the complete absence of both upper extremities (Fig. 1). In addition to this deformity, he had congenital clubfoot, extreme equinovarus. His feet were short and thick, with an absence of toes except for a short great toe on the left foot. On the right foot there was a long digit, which was a typical thumb lying along the inner aspect of the ankle. He had utilized this thumb and ankle as a hand in performing such acts as bathing, washing his teeth and, occasionally, writing or drawing.

Henry, at the age of 12, was an unusually bright boy, was up with his class, and showed a marked talent for drawing. Already he displayed some real ability as a cartoonist.

His early history was obtained from his parents:

He was 2 years of age before he learned to scoot. Day after day his mother and sister played with him, drawing his little feet under him in order to teach him to scoot and to rise to a sitting posture. He was 4 years of age before he learned to walk. After this he made rapid progress in learning to do things for himself. When 6 years of age, he could hold a large pencil between his right cheek and shoulder and make lines. By the time he was 7, he could write and draw. He showed a penchant for drawing from the very beginning. At about this age he conquered the task of opening doors by grasping the knob between his cheek and shoulder. Shortly thereafter he began to hold a little scroll saw in this way, or with his right foot, and would saw out different objects. His wooden Santas have become quite famous.

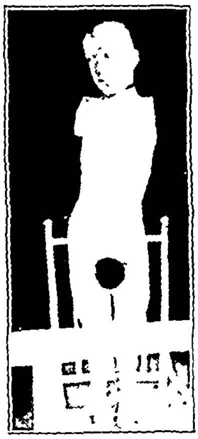

Fig. 1. — Congenital absence of arms in a boy, aged 12 years.

He entered the Spaulding School for Handicapped Children at the age of 8 and made rapid progress in all subjects. He became expert on the typewriter, striking the keys with a long stick held between cheek and right shoulder. He was also an expert weaver of rugs, shifting the shuttle by grasping it with cheek and shoulder.

In May, 1920, the boy was first brought to my attention. At that time there was some discussion as to whether he should enter a side show or not. His teachers felt that this would be the end of what might become a brilliant career. Henry, himself, had given his future a great deal of thought, and he desired to complete his education and to take up some type of art work. His ambition had been fired by listening to an address by Michael Dowling, the bank president of Olivia, Minn., who had lost both legs and both arms when 16 years of age. He had also corresponded with Judge Corliss of Dallas, Texas, who had advanced from a laborer to a county judgeship after losing both his arms at the shoulders.

At the age of 12, however, Henry had become sensitive at having to depend on other persons to dress him and attend to many of his daily needs. Above all, he wanted sleeves in his shirts and coats, and arms in the sleeves, even though they were artificial arms. At this time his case was first studied from the point of view of reconstructive surgery.

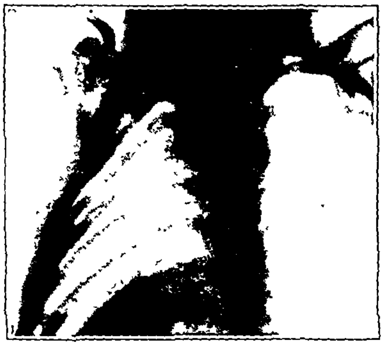

Fig. 2.—Short rudimentary humerus, with undeveloped head of humerus and glenoid fossa.

The examination showed two small elevations of the chest wall at the poorly formed shoulders, but the skin of the chest passed smoothly over these from front to back. There were no axillae and there was only a slight protuberance at each end of these elevations, indicating the point where the arms were intended to be. There was no cicatrix visible over these areas. None of the anterior group of muscles, the biceps or coracobrachialis, seemed to be present, but there was a fairly developed posterior portion of deltoid muscles on both sides. The pectoralis major muscle on either side was foreshortened and poorly developed, as was also the latissimus dorsi. The shoulders were narrow and drooping, and the right was raised higher than the left, owing to his constant use of this shoulder.

The roentgen-ray findings showed a small, underdeveloped upper fragment of humerus 3 inches long on the right side and about 4 inches long on the left. These fragments of bone lay along the outer border of each scapula. The glenoid fossa on either side was shallow and poorly developed. Each head of the humerus was small, underdeveloped and in close proximity to the coracoid process. The right clavicle was bent upward in its outer half, evidently owing to the approximation of this shoulder with his right cheek (Fig. 2).

It was felt that an operation would result in freeing each rudimentary humerus, that muscle could be obtained from the pectoralis major on each side to form a muscular covering for the bone, and that a plastic operation on the skin of the chest wall could be utiliz in covering over these stumps and forming axil This would give him two short stumps in which a tain amount of motion might be developed and to wl artificial arms might be attached. If nothing further was accomplished than to make him less conspicuous—to give him sleeves with arms in—it was felt that the operation would be a success.

After several examinations, study of roentgenograms and consultations with several members of St. Luke's staff, the operative procedure described herein was decided on. None of us ever dreamed of the development in these rudimentary humeri that has occurred.

In June, 1920, I operated on the right side. The operation consisted of an incision 4 inches long, extending from just below the outer third of the right clavicle downward along the anterior chest, and approximately 2 inches inside what would have been the anterior axillary fold, had an axilla existed. A similar incision was made downward along the posterior chest approximately 2 inches behind what would have been the posterior axillary fold. The skin was dissected outward to the desired location of the axillary fold behind, and in front the skin was dissected outward to a point that would correspond to the outer border of the biceps muscle, if one had existed Thus, additional skin was preserved and formed into anterior and posterior flaps to cover the under surface of the stump after the rudimentary humerus was freed.

Fig. 3—Physical exercises were used for the development of stumps, following operation

Next, a careful dissection was made along the external surfaces of the pectoralis major and the latissimus dorsi inward, an endeavor being made to expose the lower end of the humerus first. It was found lying along the lateral margin of the scapula and seemed to be attached to the scapula by a fibrous band This was undoubtedly the undeveloped teres major muscle. This band was cut and, as outward traction was made on the small humerus, the dissection was carried upward anteriorly to the insertion of the pectoralis major and posteriorly to the insertion of the latissimus dorsi muscle. The humerus, which was in circumference about the size of the humerus in a 2 year old child, could now be pulled outward or abducted to about 30 degrees. The two muscles were undeveloped and foreshortened, thus preventing further abduction. The fascia axillaris was not cut; therefore the vessels and nerves in the axillary region were not exposed.

There was now presented a small rudimentary humerus approximately 3 inches long, covered posteriorly and laterally by a fairly well developed deltoid muscle and skin; an exposed axilla covered with fascia underneath, in which were the vessels and nerves, and the shoulder joint surrounded by the insertions of the supraspinatus, infraspinatus, teres major and minor and the other shoulder muscles and perhaps small portions of the origins of the biceps, triceps and coracobrachialis muscles. Protruding below the insertions of the *pectoralis major* and the latissimus dorsi muscles was the inner or medial surface of the small humerus, completely exposed and free of all muscle covering for about 2 inches. The chest wall was now denuded of skin for an area extending downward from the new formed axilla, a distance of 4 inches, and 5 inches in width.

In order to cover the exposed portion of the humerus, and to help form a well rounded stump, the lower half (from the third to the seventh costal cartilages) of the pectoralis major muscle was dissected free from the chest downward toward its costal origin and bisected just above this origin. Its small insertion on the humerus was left intact. This insertion was just a narrow band *immediately below the head of the humerus or at the upper end of the crista tuberculi majoris.* This freed portion of the pectoralis major was now brought over and wrapped around the exposed portion of the humerus, covering over the end of the bone as well, and was sutured to the fascia of the deltoid anteriorly and posteriorly and behind the end of the bone. Thus the muscle flap of the pectoralis filled in the space where the biceps and coracobrachialis were absent. Its origin from the clavicle and sternum, combined with its insertion at the upper end of the *crista tuberositi majoris, composed the origin of this transplanted muscle;* its new insertion was to the medial surface and around the end of the rudimentary humerus. The fact that the pars sternocostalis and pars abdominalis of this muscle pass upward to a higher insertion on the humerus than does the pars clavicularis served well as a new origin for this transplanted portion.

The final step in the operation consisted of suturing the skin flaps around the medial surface of the stump and across its lower end, thus completing the formation of the stump. The axilla was closed in by cutting two sliding pedicled skin flaps from the anterior and posterior chest wall, uniting them in the axilla and suturing their lower margins to the skin flaps surrounding the stump. Multiple radiating incisions downward and backward on the chest wall, dissecting and undermining the skin for a considerable distance over the chest, were necessary in order to close in the denuded area left between the posterior and anterior axillary lines below the new formed axilla. The making of this axilla and the covering of this large denuded area were two of the most difficult plastic procedures that I have ever attempted.

The left side was operated on two weeks later and in practically the same manner, except that there was 3 inches of exposed humerus to cover with transplanted pectoralis major muscle and that the anterior skin flap in the new formed axilla sloughed, thus necessitating a skin graft before healing was complete. Neither of the wounds became infected. The patient made an excellent recovery from both operations.

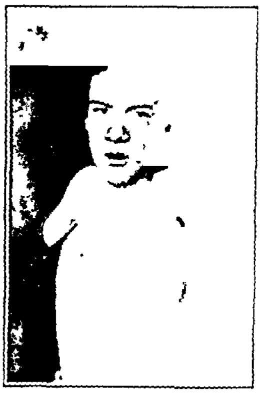

Fig 4 —The stumps as they appeared four years after operation.

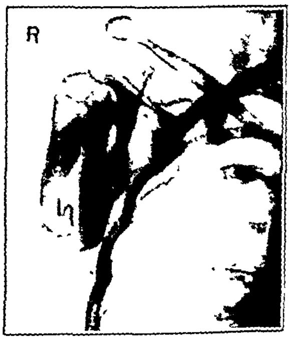

Fig. 5.—Four years after operation, fully developed head of humerus and well developed upper shaft. The distal end of shaft turned upward, showing greater growth of bone than of soft tissues

On the completion of the healing of the wounds following these two operations, it seemed doubtful whether very much had been accomplished. The boy now had two small stumps, in circumference about the size of a baby's upper arm, with no ability to move them in any direction. The measurements were:

Right stump, from axilla to distal end, 2 inches.
Left stump, 3 inches.
Right stump, from acromion process to distal end, 4 inches.
Left stump, 5 inches.

Two months after the operations had been performed, Henry returned to the Spaulding School for Handicapped Children. Here Miss Jane Neil, the principal, and Miss Carney, the chief physiotherapist, placed the boy under a most thorough course in muscle training exercises and occupational training. Their untiring efforts are largely responsible for the result obtained. By December, these stumps had become firm and muscular; Henry could abduct the little stumps to approximately a right angle and he was ready for his artificial arms (Fig. 3).

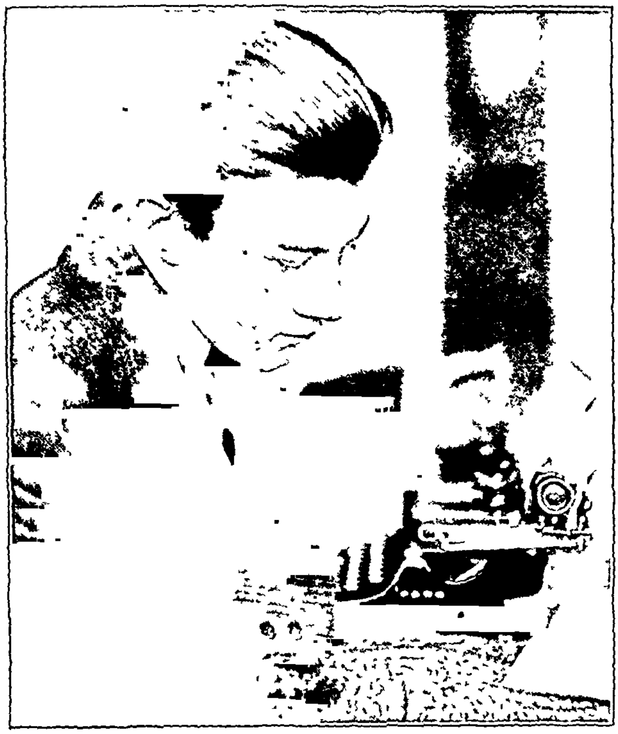
Fig 6—Henry at his typewriter.

The arms had been made after careful consideration of the type and character needed and after consultations between the surgeon and the artificial limb manufacturer.

December 23, Henry came to the hospital as soon as he had received his new arms. He was dressed in a new suit and a new shirt; both shirt and coat had sleeves, the first the boy had ever had. With his new arms in these sleeves he looked like any ordinary healthy boy, but I doubt whether there was ever a prouder or happier child. Within a half hour, he was able to grasp a pencil in the clamp attachment at the end of his right arm, could write better than most boys of his age and could draw better than when he held the pencil between his right cheek and shoulder. A little later he returned to the Spaulding School, and just before entering Miss Neil's office, he asked Miss Carney to throw his overcoat over his left arm and place his cap in his left hand. Then he marched in and put out his right hand to his friend, the principal "just like a gentleman," as he expressed it.

That noon at luncheon at the school, he grasped a spoon in his right hand and ate like other boys instead of "lapping his food like a kitty."

From all accounts his homecoming that evening and the surprise he gave his mother, who did not know that his artificial arms were ready and who had never seen his new suit, was very impressive. It must have been, for it is impossible to describe the choky sensations that a number of us doctors had that day at the hospital as Henry displayed his "first sleeves, and *sleeves with arms in 'em.*"

Since then Henry has grown considerably, although he is still undersized for the age of 17. His stumps are much larger in circumference and measure now:

Right stump, from axilla to distal end, 4 inches.
Left stump, 5½ inches.
Right stump, from acromion process to distal end, 5¼ inches
Left stump, 6¾ inches (Fig. 4).

From a scientific standpoint, the two most interesting features about his case are the developments in the bone and shoulder joint and in the transplanted muscle. A recent roentgenogram shows well developed glenoid fossae, and the head of each humerus is well rounded and apparently normal. Each humerus has shown decided growth, the left growing more rapidly than the soft tissues about it, so that now it protrudes more than an inch at the end of the stump, and is covered only with skin (Fig 5).

Here we have an excellent example of Wolff's law, the rudimentary humerus and glenoid fossa taking on the normal shape and characteristics of these parts as function has developed.

The transplanted pectoralis major muscles can be contracted at will. Henry can make his right transplanted pectoralis stand out like a biceps, and he gets the same pleasure out of "making a muscle" as any boy does who flexes his arm. In its limited scope, this transplanted muscle has taken on the shape and function of a biceps muscle.

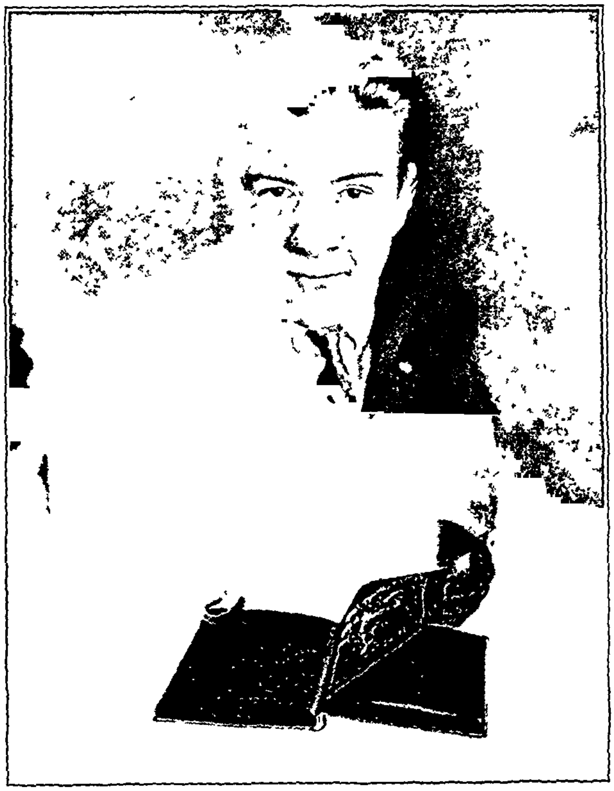
Fig 7.—Henry with sleeves and arms in his sleeves

Henry has a new pair of artificial arms, having outgrown his old ones. He paid for the new pair himself

DIABETIC LIPEMIA RETINALIS AND FAT EMBOLISM

REPORT OF CASE *

CLARENCE F. BANTIN, M.D.
OMAHA

This case of diabetic lipemia retinalis and fat embolism is presented because of its many unusual features and serious complications.

REPORT OF CASE

History.—E. A., a man, aged 23, was brought to the University Hospital, Feb. 15, 1925, in a comatose condition, from which he could be but slightly roused. A history was obtained from relatives that, five and a half months previously, he had suddenly developed an intense thirst and appetite, with polyuria and nocturia. Three weeks after the onset he became markedly drowsy. He was taken to a hospital, diagnosed as having diabetes, treated with insulin, and dismissed two weeks later with instructions as to diet. He adhered to the diet quite closely for about two months, after which, finding that he was free from his symptoms, he became careless. Thirst and polyuria returned and gradually became more severe. He finally began to eat anything, including pie and ice cream, and one evening developed an intense headache. The following day he felt drowsy, and on the second day could not be aroused and was breathing with great difficulty. The local physician gave him three large doses of insulin (amount not known), and said that, as a result, the quantity of sugar in the urine was greatly reduced. Orange juice, which had been given, was vomited. He was brought to the University Hospital that evening. No history of previous renal disease could be elicited, and except for occasional attacks of tonsillitis his past history was negative.

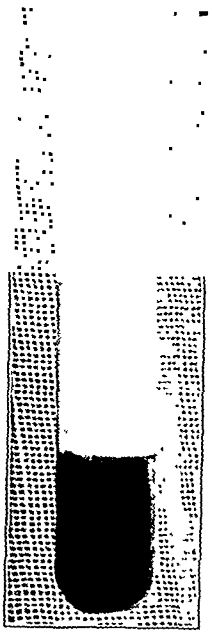

Fig. 1.—Centrifugalized tube of citrated blood (2 drops of a 20 per cent citrate solution) showing the relative volume of fat.

Physical Examination.—The patient was in a comatose condition, deeply cyanosed and gasping for breath. Respiration was from 30 to 40 per minute; pulse 130 to 150 and very weak; systolic pressure, 60; diastolic, 0, and rectal temperature, 97 F. Nothing pathologic could be detected in the lungs or heart, and except for the absence of knee jerks, the physical examination was negative. Blood taken for chemical examination had a milky appearance, and on centrifugalization, the serum was quite white and had the consistency of cream, characteristic of a marked lipemia (Fig. 1). Microscopic examination of the serum showed innumerable minute fat globules and some larger ones. The larger globules stained with scharlach R.

Ophthalmoscopic Examination.—A very striking picture was observed: Large numbers of distinct globules of yellowish white were seen in the chocolate colored veins, varying in size from about half the diameter of the veins to those large enough to be flattened by the vessel walls. The globules moved in a continuous stream from the periphery toward the optic disk, passing quickly over its margin and disappearing in its center. In contrast to the veins, the arteries appeared narrower, were of a light pink shade, and showed no movement within their lumina. The fundus was salmon color, and the optic disk appeared waxy, with an indistinct margin but very little elevation. The picture was so striking that several were called to observe it, including one of the hospital interns, a senior medical student, a laboratory technician and several others. A drawing of the fundus was made by Dr. L. F. Swihart, from observation, illustrating the appearance of the globules (Fig. 2). The following morning when the fundi were examined, the globules were no longer visible, but the other findings were still present.

Laboratory Findings.—The urine was light yellow, with 1.020 specific gravity. It showed a trace of sugar, tests for albumin and acetone were positive, there were a few pus and epithelial cells, a few red blood cells, urate and calcium oxalate crystals and fat droplets. The diacetic acid was negative. The blood sugar was 354 mg. per hundred cubic centimeters, and the blood nonprotein nitrogen, 45 mg. per hundred cubic centimeters. The blood count was 5,700,000 red cells, and 29,000 leukocytes, with 85 per cent. polymorphonuclears.

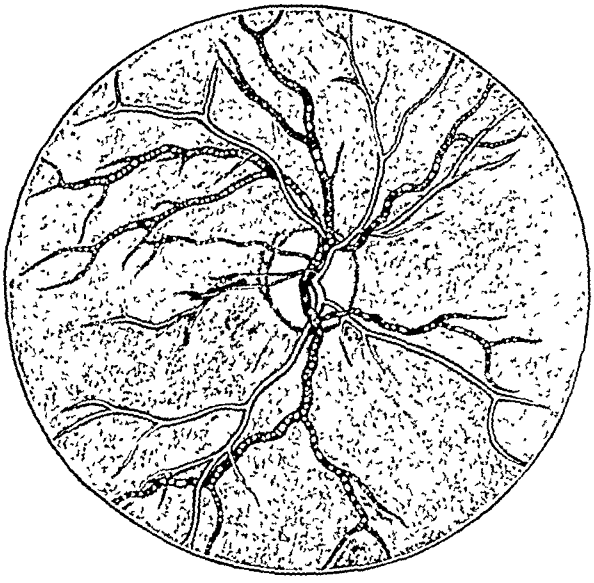

Fig. 2.—Drawing of fundus, showing fat globules in the veins.

Treatment.—The patient was catheterized, and was given an enema and a gastric lavage at once. A pint of 5 per cent. sodium bicarbonate solution was left in the stomach, and proctoclysis of the solution started. External heat was applied to the body. Thirty units of insulin was given intravenously, and repeated in six hours, while 150 c.c. of orange juice was given every three hours by mouth.

Progress.—The following morning the patient's breathing was less labored. The blood sugar was 333 mg., and there was no sugar or acetone in the urine. The 30 units of insulin was repeated every three hours and on the second day the blood sugar was reduced to 170 mg., but the nonprotein nitrogen had risen to 76 mg. in the morning and 138 mg. in the evening, with a creatinin of 5.6 mg. The insulin was reduced to 10 units every three hours, with 10 gm. of glucose by mouth, and as there was almost a complete anuria, hot packs were instituted. On the third day, the temperature was 104.8 F., and the patient showed definite signs of a lobular pneumonia. He was quite rational and was breathing rapidly but easily. The blood sugar was about the same, but both the nonprotein nitrogen and the creatinin were higher. On the fourth day the patient appeared to be better, his temperature was lower and he began to eliminate, by sweating in the hot packs and voiding a small amount of urine. The creatinin had reached 8.7 mg., the nonprotein nitrogen was 135 mg. and there was still some visible fat in the blood serum. The creatinin began to drop on the fifth day, although the nonprotein nitrogen continued to rise until it reached its highest point of 192 mg. on the ninth day. At this time the visible fat had disappeared from the blood serum. On the fifteenth day the nonprotein nitrogen was 39 mg. and the creatinin was

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* From the service of Drs. Crummer and Anderson, University of Nebraska College of Medicine.

1.3 mg., both within normal limits. After that time, they remained normal, and the blood sugar averaged about 150 mg.

Up to the eighth day, the patient had received only tea and toast, in addition to the glucose given with the insulin, but at that time he was started on a diet of 600 calories, with 8 units of insulin before each meal. The diet was increased, and the insulin reduced until by the end of the third week he was on a diet of 2,000 calories and was sugar free, without the use of insulin. At this time he was feeling very well, and his temperature was normal. The pneumonia in the lower right lobe, however, was unresolved, and the blood count had fallen to 3,120,000 red cells and 17,200 leukocytes, with 68 per cent. polymorphonuclears. At the beginning of the fifth week, his temperature rose to 104 F., and he had a severe pleuritic pain in the right side of the chest. The twenty-four hour urine specimen contained 10 gm. of sugar, the first time that sugar had appeared in the urine since he had entered the hospital. The leukocyte count rose to 29,600, with 86 per cent. polymorphonuclears. Four days later the patient developed a swelling, posteriorly in the right flank, with extreme tenderness and a rigidity of all the abdominal muscles. This persisted for several days, but disappeared within a week. The leukocytosis dropped to 11,200, but the patient continued to have a very irregular temperature for the next three weeks, it often rising to 102 F. in the afternoon. He coughed a great deal, and a roentgenogram showed the unresolved pneumonia, with a fluid level in the lower right chest. He remained sugar free on a diet of 2,800 calories, without insulin. He left the hospital two weeks later.

COMMENT

This case presents many unusual features. Lipemia is found more commonly in diabetes than in any other disease, and the blood lipoids have been found to be increased in practically all diabetic patients, even when the fat is not visible in the blood serum. Allen[1] says that the heaviest lipemia occurs only in severe active cases on a high fat diet, which naturally gives rise to acidosis. Bloor[2] explains this lipemia on the basis of a relative inability of the patient with diabetes to remove fat from the blood. This allows an accumulation of total fat, which has been reported as high as 26.25 per cent.[3] The actual amount of fat in the blood serum in the case was not determined, but such outstanding changes in the serum and in the retina make it certain that it exceeded the 8 per cent. mentioned by Gray and Root.[3]

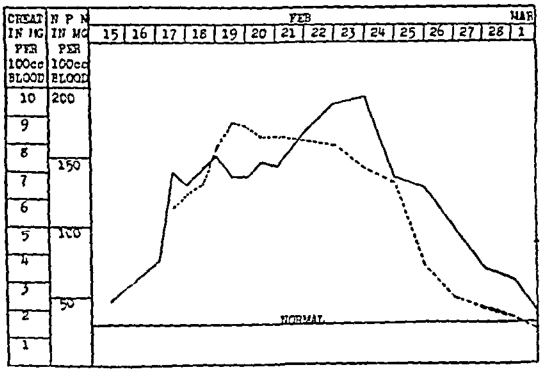

Fig. 3.—Solid line, nonprotein nitrogen; broken line, creatinin.

The fat of lipemia ordinarily is in such a finely divided state that it is not visible as globules, even under the microscope. The state of aggregation of the fats or lipoids has more to do with the appearance of the retina than the total lipoid content, as retinal changes may be more marked at one time, with a lower total lipoid content, than at another time when the content is higher.[4] Blood fat in its finely divided state passes through the capillaries without producing embolism, but when larger fat globules form or enter the blood stream, they give rise to fat embolism. In traumatic lipemia, these emboli lodge chiefly in the lungs, giving rise to pneumonia. Smaller globules may pass through the pulmonary capillaries and damage any organ in the body. Those lodging in the brain give rise to fever, convulsions, coma and death. Fat embolism from disease such as diabetes is usually limited to the pulmonary capillaries, causing no symptoms.[5] This, together with the observation that diabetic coma may develop with clear plasma and low fat content, discredits the idea that the coma in diabetes is due to fat embolism.[1] However, the ophthalmoscopic observation, in this case of fat droplets of considerable size and number flowing in the retinal veins necessitates an interpretation of fat embolism arising from so severe a diabetic lipemia. Thirty-three cases of lipemia retinalis have been reported. Muskat[6] reviews the literature and reports the thirty-first case. Since then Rowe[7] and Machlis[8] have reported cases, making this one the thirty-fourth reported. There are slight differences in the various descriptions given of lipemia retinalis, but the one observed in this case corresponds most nearly to that described by Wagener.[9] However, no previous record of actual fat globules having been seen in the veins has been found. White spaces, thought to be fat or plasma spaces, were observed microscopically in the capillary network at the base of the nails in a case of lipemia retinalis reported by McCann,[4] but the retinal vessels did not show them.

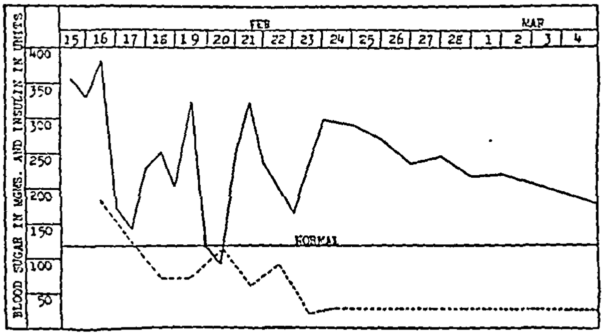

Fig. 4.—Solid line, blood sugar in mg. per hundred cubic centimeters of blood; broken line, insulin in units per twenty-four hours.

Although the simplest explanation of the pneumonia and nephritis is an acute infection, apparently neither began before the patient went into coma, and since we know that at that time fat was present in the blood stream in the form of relatively large globules, we must consider the probability that the coma, subsequent pneumonia and nephritis can all be explained on the basis of fat embolism. The glomerular vessels are commonly filled with fat in traumatic fat embolism, but acute nephritis has not been a common complication.[5] Most recorded cases are rapidly fatal and possibly do not give time for the development of nephritic symptoms. The nephritis of this case was unusual in the rapidity with which nonprotein nitrogen retention developed and the marked creatinin retention of 8.7 mg. per hundred cubic centimeters of blood, with subsequent recovery. The curves of the blood nonprotein nitrogen and creatinin (Fig. 3) also illustrate the fall of creatinin while the nonprotein nitrogen was still rising, this serving as a valuable prognostic sign of beginning improvement. A blood creatinin of more than 5 mg. almost invariably indicates a fatal outcome in a comparatively limited time, the only exceptions being cases in which the retention is due to some acute renal condition.[10] The remarkable return to normal in this case from a retention of 8.7 mg. is explained by the acuteness of the process, with prompt elimination or removal of the fat from glomerular vessels.

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[1] Allen, F. M.: Experimental Studies in Diabetes: Lipemia, J. Metabol. Res. **2**: 219 (Aug.) 1922.

[2] Bloor, W. R.: Lipemia, J. Biol. Chem. **49**: 201 (Nov.) 1921.

[3] Gray, Horace; and Root, H. F.: Lipemia Retinalis, J. A. M. A. **80**: 995 (April 7) 1923.

[4] McCann, W. S.: Lipemia Retinalis, Bull. Johns Hopkins Hosp. **34**: 302 (Sept.) 1923.

[5] Warthin, A. S.: Traumatic Lipemia and Fatty Embolism, Internat. Clin. **4**: 171, 1913.

[6] Muskat, I. I.: Lipemia Retinalis, Am. J. Ophth. **7**: 288 (April) 1924.

[7] Rowe, A. H.: Effect of Insulin in Treatment of Diabetic Lipemia, with Lipemia Retinalis, J. A. M. A. **82**: 1168 (April 12) 1924.

[8] Machlis, S. A. D.: Diabetes Mellitus, Complicated by Lipemia Retinalis, J. A. M. A. **83**: 1428 (Nov. 1) 1924.

[9] Wagener, H. P.: Lipemia Retinalis, Am. J. Ophth. **5**: 521 (July) 1922.

Recovery from the acute diabetic symptoms was fairly prompt, illustrating well the value of the controlled use of insulin. Curves of insulin used daily and blood sugar determinations were plotted (Fig. 4). The pneumonic signs in the right base and the subsequent right abdominal symptoms and sepsis gradually cleared without operation.

PERSONAL EXPERIENCES IN AN ATTACK OF YELLOW FEVER *

HENRY HANSON, M.D.
NEW YORK

In July, 1919, I was asked by the Peruvian health department to investigate and report on an epidemic of fever prevailing in Piura, the capital of the department of Piura in the northern section of Peru. I undertook the task with some degree of apprehension owing to the fact that I was not immune to yellow fever, and that, to a certain extent, I shared the popular fear of this much dreaded disease.

Both my knowledge of and experience with yellow fever were limited at that time, but I had had the good fortune to be associated with Surg. S. B. Grubbs of the United States Public Health Service, who was on the Panama Canal in the capacity of chief quarantine officer during the time that I was there as assistant chief health officer. Our discussions of yellow fever began when an engineer from the old Steamship *Jamaica* arrived at Balboa with an attack of yellow fever contracted a few days previously in Guayaquil. During this and subsequent discussions, Grubbs emphasized two points as of the greatest importance in the care and management of cases of yellow fever: (1) that the patient should be kept quiet in bed and that he should be left where he was taken sick and not moved if it was possible to avoid it; (2) that no food of any kind should be given until the stage of convalescence had been reached. These two all-important points were also emphasized by the late Dr. Henry R. Carter (who, in my estimation, was the greatest authority of the age on matters of yellow fever) after he joined us in the Peruvian yellow fever campaigns of 1920 and the first part of 1921.

It is quite difficult for a person to state with any degree of certainty just when and how he has been inoculated with the germ of yellow fever. In this day, thanks to the brilliant work of Dr. Noguchi, we know practically all the intricate details of the etiology of the fever; the usual method of transmission was previously worked out by the United States Army Medical Board in Cuba. So there seems to be little to add in this connection; however, there are certain facts connected with my case that may be of interest.

Immediately after landing at Paita I was shown a number of sick persons who manifested all the clinical symptoms associated with yellow fever. Piura, however, was the place reported to be the most seriously affected by the, as yet, officially undiagnosed fever epidemic. We therefore proceeded to Piura, where, after the usual preliminaries, we began an immediate investigation of the nature of the existing outbreak. After a few days of general observations in the company of a group of local physicians, we made a detailed clinical study of cases of the fever in the lazaretto; at the time there were nine of these in varying stages and of different degrees of severity. In order to exclude the possibility of malaria, blood smears were taken from the nine patients; these were treated with Wright's stain and examined for plasmodia of malaria. All proved negative so far as microscopic evidence of malaria was concerned. The symptoms manifested by these patients in the aggregate were quite typical of yellow fever.

During the course of the examination, I noted that my index finger was stained at the tip with blood from these patients. I attached no importance to this, though at the time of leaving, when I cleansed my hands with alcohol, I experienced a very decided sting in that finger. Whether this was the manner in which I was infected with yellow fever, or whether I was bitten by an infected *Stegomyia* mosquito about the same time, I cannot say with certainty. During my convalescence another incident occurred which would suggest the possibility of infection by inoculation of a small quantity of infected blood. After a necropsy on a yellow fever patient, Dr. Chiri punctured one of his fingers with the needle with which he was sewing up the body. Four and a half days later he developed a moderately severe case of yellow fever, from which he fortunately recovered. Here again there is the same uncertainty concerning the method of infection as in my case, but there exists the same possibility of a mechanical infection by direct inoculation. Instances of this kind are rare and their occurrence improbable, but the facts are as stated and are submitted for what they may be worth.

Four or five days after the clinic in the yellow fever lazaretto, I awakened about 2 o'clock in the morning with a strange feeling of uneasiness which is difficult to explain. Late in the morning I began to have a peculiar type of sore throat unlike any I had previously experienced, and added to this there appeared to be a taste in my saliva as if I had blood in my mouth. Very soon after this my head began to feel queer, and a moderate headache developed. This was almost immediately followed by a pronounced soreness in the back, which at first seemed to be localized in two large tender spots over the kidney region. At that time—about midday—I was in the office fighting against the conviction that I had yellow fever, and preparing to go out to one of the hospitals to perform a necropsy on a patient who had just died. I left instructions for my horse to be sent to the house where I was rooming, and went over to make some preliminary preparations;

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[10] Myers, V. C., and Killian, J. A.: Prognostic Value of Blood Creatinin in Nephritis, Am. J. M. Sc. **157**: 674 (May) 1919.

* From the International Health Board of the Rockefeller Foundation.

soon after reaching my room I began to feel more and more general discomfort and distress and I lay down on the bed, from which I did not get up again until I was convalescing from an attack of yellow fever.

From the time that I lay down, the prostration was so great that I felt unable to make an effort of any kind; I did not even attempt to undress myself for bed. The symptoms from that time on were mainly a general distress, with a sensation of abdominal distention and a tenderness in the epigastric and liver region about the lower right costal margin anteriorly. This distress was especially notable in making the effort to speak. The vibrations from every syllable pronounced created a distinctly painful, distressed feeling in the epigastric region. Light percussion or palpation over the abdomen was decidedly annoying and painful.

The fever did not run especially high, rarely going much over 39 C.; but there seemed to be a rather pronounced toxemia, since about the end of the second day it was noted that the heart beat was irregular and a beat would be skipped occasionally. This was first noted on the thirty-second beat, but it gradually increased in frequency until on the third and fourth day there was an irregularity manifesting itself, as the native physician put it, "in false passes" from the fourth to the seventh beat. During the second day the kidneys almost ceased functioning: there was not over 400 cc. of urine passed during the second twenty-four hours. The prostration continued to be very profound up to the fifth day. The nervous manifestations alternated between a slight excitability and depression resulting in moments of unconsciousness, delusions, and a passing from weird dreams of floating off in space to others of falling down over precipices into deep valleys, and of landing beside a black river and looking out on a sea of impenetrable blackness, where shore line and infinity seemed to meet, and beyond which there appeared to be nothing but infinite blackness and the end of everything. Here a nondescript individual in a canoe emerged from the blackness and offered to take me over, but I decided against going. This dream apparently took place at the time of the crisis, when a slight mechanical stimulation kept up the heart action sufficiently to tide me over to the beginning of improvement.

The main features of my care and treatment were absolute quiet in bed; the withholding of foods of all kinds until the seventh or eighth day; the administration of a preliminary cathartic, which, in this case, consisted of magnesium citrate, and of small quantities of water as frequently as possible without provoking nausea, as well as a certain amount of orange juice and lemon juice, and an occasional dose of an elixir similar to the elixir of iron, quinine and strychnine. At the moments of the greatest feeling of depression, small doses of whisky or brandy were given, which seemed to relieve the exhaustion and the labor of breathing. There are moments when one experiences considerable difficulty in breathing. It seems to be a struggle.

The convalescence appears to be quite rapid when it sets in, but to the average person who is strong physically, this is dangerous in that he has a false sense of well being and a desire to get up too soon. The irritation in the stomach, which is a result of the congestion, often creates a sensation of acute hunger in convalescence which should be carefully guarded against on account of the unreadiness of the stomach mucosa to handle coarse or solid foods within a period of many days after recovery. In my case, some ordinary food was eaten together with a soup containing some fibrous vegetables, and it was at once noted that this created a painful feeling in the stomach. If one takes into consideration the condition of the mucous membranes, it will be readily understood how this might even result in a hemorrhage.

I attempted work the twelfth day after the onset of the disease, and carried on for about three days. This resulted in a collapse, an exacerbation of the toxic myocarditis, and a return to bed with another period of prostration and nervous manifestations. In this instance, instead of the anuria there was, for a period of a little more than twenty-four hours, a pronounced polyuria resulting in an excretion of approximately 3 liters of urine in that period. The recovery from this collapse was uneventful; the only thing of note is that it required a period of several weeks to get back to a feeling of normality. During this period there occurred a yellow discoloration of the skin, conjunctiva, and mucous membranes with some desquamation and a slight loss of hair.

CONCLUSIONS

There are five important features to be observed in the care and treatment of a case of yellow fever:

1. There must be absolute rest in bed from the first onset of symptoms until a definite, safe convalescence has been established. No patient should be moved from the site where he falls sick, though when it seems absolutely necessary to transfer him to some place where he can have better care, this is allowable if he is moved early in the second day of his illness. He should never be moved late in the second day or after that time.

2. Foods of all kinds, even milks or albumins, should be withheld until convalescence is established.

3. A cathartic which is not too drastic should be given as early as possible after the onset of the first symptoms. The principle in this is to remove practically everything in the intestines so as to avoid having an accumulation of material to add to the profound toxemia of the average yellow fever case.

4. The patient should be given all the water that he can possibly drink without producing vomiting. This is best done by administering small quantities at frequent intervals. Feeding small pieces of cracked ice is a great help in quieting the irritation in the esophagus and stomach. Soon after the first or second day, plain water has a tendency to increase the sensation of nausea, and then it becomes necessary to choose some alkaline water that is more readily tolerated by the patient. Usually vichy answers this requirement as well as any other form of water known.

5. All visiting should be prohibited, since the patient of this type does not have sufficient strength to talk or to make any extensive effort at thinking.

In addition to these measures, one might suggest as stimulants in the periods of depression small doses of a good grade of whisky or brandy and also small doses of champagne with cracked ice. And, as a final word, the diet of the convalescent should consist of light, soft food for a period of from one to two weeks in order to be on the safe side.

The treatment here outlined was naturally employed at a period before the Noguchi anti-yellow fever serum was made available. It still will hold in territories in which such serum cannot be had.

61 Broadway.

Clinical Notes, Suggestions and New Instruments

OBSTRUCTION AND PERFORATION OF SMALL INTESTINE DUE TO A COPROLITH

Wendell Downing, M.D., Le Mars, Iowa

Obstruction or perforation of the small intestine due to coproliths is of rare occurrence. Few textbooks mention such a condition, and a search of the literature shows less than half a dozen authentic cases reported.

Coproliths are masses of inspissated feces combined with cholesterol and bile. They are to be differentiated from true enteroliths, which are foreign bodies composed of earthy salts formed about some nucleus, such as a fruit stone. The terminal ileum is the most common location for fecal masses in the small intestine because of its smaller diameter and its folds of mucous membrane. Diverticula (Meckel's and others) serve as the site of origin of most fecal masses. From these pouches the mass may be dislodged, or it may extend into the lumen of the small intestine, resulting in obstruction or perforation.

Coproliths are more common in the colon, because of the frequency of diverticula in the large bowel. The semisolid and solid nature of the contents of the colon explains the numerous fecaliths that accumulate in the colonic haustra.

The following case of obstruction and perforation of the small intestine due to a coprolith came under observation:

A white woman, aged 21, married, had had no previous illnesses, no abdominal or other symptoms and had always been very well and strong. One month before the present illness, the patient was confined at her first pregnancy, with normal labor and puerperium. She left the hospital on the twelfth day, feeling well. On the twenty-second day, ten days after going home, she began to flow and flowed hard for four days. She passed many clots and had sharp pain in the upper part of the abdomen, the pain radiating toward the umbilicus. She did not vomit; the stools contained some dark blood at that time. She had no chills or fever. The uterine hemorrhage was severe enough to cause her to become pale and weak. From the twenty-sixth to the thirtieth days, she felt better and had very slight bleeding.

At noon on the thirtieth day, the patient developed a very severe pain in the upper part of the abdomen; it radiated across the abdomen, was colicky in nature and doubled her up. The pain continued and, by 6 o'clock, was felt over the entire abdomen. She then vomited several times. When seen at 6:30, she was in severe pain; she was pale, and the abdomen was moderately distended and showed marked tenderness and rigidity. The temperature was 100; the pulse was 130, and the respiration, 30. Pelvic examination was unsatisfactory on account of the tenderness. The hemoglobin was 40 per cent (Dare) and there was a leukocytosis of 21,000. She was given one-fourth grain (16 mg.) of morphine hypodermically.

Immediate operation was advised but was refused by the patient. That night and the following morning fluids were given by bowel. She was kept in the Fowler's position and nothing was given by mouth. She had no additional opiate. The pain was moderate, and she vomited only once. The following morning the general condition was somewhat improved; the pulse was 110 and the abdominal findings were unchanged. The leukocytosis had decreased to 15,000. At 5 p. m., twenty-nine hours after the onset, a laparotomy was performed, under ether anesthesia.

An incision was made in the right rectus, at the level of the umbilicus. The peritoneum was dark; a large quantity of cloudy fluid with the colon bacillus odor was present in the peritoneal cavity. The small intestine was moderately distended and was covered with fibrinous exudate. The pelvic organs were normal, and the uterus was of normal size for the fourth week post partum. A small quantity of liquid intestinal content was present between the loops of the ileum. About 30 inches (76 cm.) from the cecum, two loops of ileum were adherent by fibrous adhesions, and a soft mass was felt in the proximal loop. The ileum above this was distended, and at the site of the mass was a perforation 8 mm. in diameter, partially covered by plastic exudate. The perforation was located on the antimesenteric surface of the ileum, the lower edge extending partially through the wall of the adherent loop. Liquid intestinal contents were escaping through the perforation. No diverticula were found.

The perforation was enlarged and the mass removed. The opening was closed transversely by catgut and silk suture, the adherent loop of ileum being sutured over the perforation as a patch. The peritoneal cavity was irrigated with physiologic sodium chloride solution and a cigaret drain was placed in the culdesac. The upper portion of the abdomen was not explored, on account of the poor condition of the patient.

The mass removed was roughly spherical, and was 2 cm. in diameter; it was black, shiny and of doughy consistency, and had a granular surface. On exposure to the air for two days, the mass became dry and brittle and pulverized readily. It was of uniform composition throughout. A chemical analysis made by a Chicago laboratory showed the mass to be composed chiefly of inspissated fecal matter with a small quantity of cholesterol and bile. The diagnosis made was inspissated fecal mass or coprolith.

The origin of the mass removed from the lumen of the small intestine could not be definitely determined. No diverticula were found. The fibrous adhesions and the narrowing of the intestinal lumen could not be explained, unless they were secondary to the impaction of the mass at that site.

The patient was very ill for the first four days, but she recovered rapidly and the wound was healed by the twenty-fourth day. She had no further uterine hemorrhage. She has had no other abdominal or intestinal symptoms in the two years that have elapsed since the operation.

BALSAM OF PERU IN MASTOID SURGERY

John Leshure, M.D., New York

The use of Peruvian balsam is certainly not new, but judging from inquiries that I have made, this valuable drug has not the general acceptance that its merit warrants.

At the completion of the mastoid operation and after the middle ear has been flushed through the aditus, the wound is tightly packed with a gauze pad saturated with a mixture of equal parts of balsam and alcohol. This is removed one or two minutes later and serves the double purpose of sterilizing the wound and checking oozing. The wound is then lightly packed with one-half inch strip gauze moistened in 1:5,000 solution of mercuric chloride and the balsam-alcohol mixture. Over this, plain gauze pads moistened in mercuric chloride solution are placed with rubber tissue over all and bandaged as usual. The first dressing is made forty-eight hours later, and this interval is observed for the first three dressings, at the end of which time the wound is usually clean and lined with healthy granulations.

Later dressings are done at three day intervals without the rubber tissue, and healing is usually complete in four or five weeks. This dressing is powerfully antiseptic, nonirritating, nontoxic and of an agreeable odor, none of which advantages are possessed by iodoform, and balsam is strongly recommended as a substitute for the former drug.

More than 200 cases have been dressed this way with excellent cosmetic results, dry middle ears and normal hearing.

423 Convent Avenue.

Efficiency of Health Service.—It is apparent today that few, if any, American cities, whether of 40,000 or 6,000,000 population, approach nearer than 80 per cent in performing the elementary public health jobs, that the medium cities in only a few instances reach 60 per cent of the desirable accomplishments and that the lower third of our cities hardly attain a level of 40 per cent in service. On the basis of present day American standards of salaries and materials, even an 80 per cent performance in preventive health work will cost a community $2.50 per capita.—Emerson, Haven: *Hospital Social Service* **13**:109 (Feb.) 1926.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 485)

MEDICATION OF THE RESPIRATORY AIR CURRENT

For medication of the respiratory tract, the respiratory air current is the most convenient and direct mode of access, and for the lower respiratory tract the only means available to the general practitioner. Direct application to the mucous membrane of the larynx by means of the laryngeal mirror requires special and rather delicate manipulations; hence it is suitable only for the trained hand of the specialist. Intratracheal injection carried out by means of a syringe with a long and curved nozzle, though it may be useful for the treatment of intracheal burns from inhalation of war gases, is too dangerous for ordinary use because of liability of injury to the pulmonary parenchyma, as has been shown by Corper.[24]

The following general principles may serve for guidance in the choice of sprays and inhalations:

1. The finer the particles, the deeper into the respiratory tract extends their action. Hence, for medicating the upper air passages, coarse sprays should be used; for the lower air passages, fine sprays must be employed. Only gases enter the alveoli; and these are so actively absorbed as to be liable to produce general rather than local action, with the exception of highly irritant gases, such as chlorine, which cannot be inhaled in sufficient concentration to produce more than local effect. Nonvolatile or slightly volatile bodies, on the other hand, are not so actively absorbed from the respiratory tract; and these, more or less medicated or flavored, are useful for topical action.

2. Moist inhalations are preferable in dry catarrh; "dry" inhalations in catarrhal conditions with profuse secretion. Most prominent among the latter class of inhalations are the vapors of volatile oil, which tend to lessen secretion and antagonize offensive odors of the sputum and breath.

3. Steam inhalations are grateful in acute inflammatory conditions of the respiratory passages: they soften mucus, favor expectoration, diminish irritation and lessen cough. They should not, however, be immediately followed by exposure to cold dry air. For chronic catarrh, hot inhalations are not suitable. They increase the sensitiveness of the membrane on exposure to cold. Cold inhalations, by means of nebulizers, are here more advantageous.

4. In acute dry inflammatory conditions of the respiratory passages, not only steam but also "nebulized" liquid petrolatum, plain or mildly medicated, may be usefully employed by inhalation and is safer than steam inhalation, when the patient does not stay indoors afterward. In chronic inflammation with profuse secretion, more strongly medicated petrolatum sprays or volatile oil vapor inhalations are resorted to.

5. Of course, whenever possible, substances of an agreeable odor should be preferred for medication of the respiratory tract.

6. We cannot reach, by inhalation, tissue not exposed to the air current. In no disease have inhalations been more abused than in pulmonary tuberculosis. Even though it be a disease of the lungs, tuberculous tissue is completely outside the air passages, as the tuberculous process obliterates those that were present in the involved area. Inhalation is of value in tuberculosis to modify the accompanying bronchitis, or to lessen the offensiveness of sputum; but against the tuberculous process itself it is impotent.

There are five different methods of medicating the respiratory air current: (1) gas inhalation, (2) steam inhalation, (3) vapor inhalation, (4) spray inhalation and (5) smoke inhalation.

1. *Gas Inhalation.*—It might seem as though the respiratory tract, constructed as it is for the absorption and elimination of gaseous bodies, might be quite readily medicated by such agents. This is, however, by no means the case. Irritant gases, so-called irrespirable gases, such as chlorine, ammonia or formaldehyde, call into action defensive reflexes, such as closure of the glottis and temporary suspension of respiration, which protect the lungs against injury as well as against therapeutic action. Nonirritant, respirable gases, on the other hand, are in general quite devoid of local action, passing through the pulmonary epithelium and being so readily absorbed by the blood stream that they develop general rather than local action.

In the dilution in which irritant gases can be inhaled, their action is expended on the upper portion of the respiratory tract. Thus, inhalation of ammonia, most pleasantly perhaps by making use of the aromatic spirit of ammonia, which can now be obtained in glass capsules, is a time honored analeptic by causing reflex stimulation of the mucous membrane of the nose.

Therapeutic chlorine inhalation has of late acquired such notoriety that it may deserve special consideration.

Although sterilization of the mucous surfaces is not achieved, there can be no doubt that many bacteria are killed. There are, however, other actions that may be even more important in securing therapeutic results. One of the first actions of the chlorine treatment is to increase noticeably nasal and bronchial secretion, causing productive coughing and blowing of the nose, and this cleanses the membrane. The action of any irritant, like chlorine, on the capillaries is to cause a primary brief constriction followed by a much longer dilatation. Thus, a hyperemia of the affected mucous membranes is produced which is conducive to recovery. There is also stimulation of phagocytosis and of the production of antibodies. In addition to this, chlorine is a powerful oxidizing agent, possessing in a high degree the property of decomposing toxins. It is impossible to state the relative importance of these different factors in alleviating and curing respiratory infections.

The concentration of chlorine that will give the best results varies from 0.013 to 0.015 mg. per liter. Experience has shown that anything higher than 0.015 mg. per liter is apt to be irritating and may produce some cough even in normal persons. It has also been found that, when the operator remains in the gassing chamber for two or three hours even at the optimal concentration for a treatment of one hour, he usually develops some slight cough which may last for a day or two. On the other hand, it has been found that a concentration of 0.009 mg. per liter is of practically no therapeutic value, even when the treatment is prolonged for two hours. This means that, in order to obtain satisfactory results, the concentration of chlorine must be maintained for the entire hour within very narrow limits; and that, if the concentration is not so maintained, failures will result that can only discredit the treatment.

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* This is the eighth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

[24] Corper, H. J.: Pulmonary Aspiration of Particulate Matter, Normally and During Anesthesia, J. A. M. A. 78: 1858 (June 17) 1922.

Vedder and Sawyer have found that hay-fever, asthma, pneumonia and tuberculosis cannot be benefited by this treatment and that the exposures to the treatment may be harmful in such cases. There is more difficulty in treating "head colds," because the swelling of the mucous membranes stops the air passages and prevents free access to the chlorine.

A few patients appear to be hypersusceptible to the effects of chlorine. When in any case it is evident that the effect of the treatment is far more irritative than it should be, the patient should not remain for the full hour. It is believed that of the small percentage of patients who receive no benefit from this treatment, a part are hypersusceptible, and the remainder suffer from sinus infection, the affected parts being inaccessible to the gas.

2. *Steam Inhalation.*—The simplest apparatus for the production of steam inhalation is a wide-mouthed receptacle, such as an ordinary pitcher, giving a surface of water of not less than 4 or 5 inches in diameter. Into this is placed hot water so as to leave an air space of at least 4 inches above the level of the water. The medicament is added, and stirred in for a few seconds. The vessel is then covered with a cone of paper or similar material, the steam being allowed to escape through the truncate apex, over which the mouth is placed; or else the head may be held over the mouth of the pitcher and a towel applied over all. To inhale effectually, the patient, after having drawn the vapor into the mouth, should follow the suction effort by a deep inspiration. To infants, especially in the treatment of bronchopneumonia, steam inhalation is given by means of a vaporizing apparatus placed near the head of the crib, best with the aid of a steam tent. When a pitcher is used for the purpose, as in the treatment of laryngitis, it is very important to avoid frightening the small child, which is best done by the mother or nurse holding the babe's face close to her own, and gradually, possibly while making a game out of it, lowering her own and the little one's face toward the steaming pitcher, covering or cone being dispensed with.

Inhalation of steam acts mainly by warmth and moisture, which is relaxing and soothing. Its use is limited, however; because, in the nose, the imbibition of moisture tends to cause swelling of the turbinate bodies, thus increasing obstruction to respiration; and, because in the whole of the respiratory tract, warmth and moisture make the membrane so sensitive that their irritation is apt to become aggravated on subsequent exposure to cold dry air. Hence, unless the patient is confined to a room at even temperature or will stay in the room for at least an hour after the inhalation, such treatment should not be prescribed. The best time for use of such inhalations by an ambulatory patient is in the evening before going to bed. Steam inhalations are useful in acute laryngitis, in the first stage of acute bronchitis, and at times in bronchopneumonia. As previously stated, they are rarely indicated in chronic affections.

As an example of a steam inhalation for acute laryngitis, tincture of benzoin may be prescribed, a teaspoonful to half a pitcherful of hot water, essentially to flavor the steam—we could hardly speak of medication from the small amount used. The tincture of benzoin is more pleasant than the more commonly employed compound tincture of benzoin, which, as it also contains aloe, develops the unpleasant flavor of this drug as soon as the more volatile pleasant flavor of the benzoin has been dissipated.

3. *Vapor Inhalation.*—This is the technical term applied to the drawing into the respiratory system of the emanation given off from volatile substances at ordinary room temperature. The induction of general anesthesia by means of volatile agents, such as ether or chloroform, is an example of vapor inhalation.

Inhalation of vapor or gas offers one of the most rapid means of inducing systemic action. The lungs are a large sponge with air passages on one side and blood vessels on the other side of a thin membrane, presenting an enormous absorbing surface of great vascularity. Volatile substances are absorbed so rapidly from this surface that, for these, inhalation furnishes an almost direct admission into the blood. Most substances absorbed by the lungs are also excreted by them, so that the rate of absorption depends on the relative concentration of the substance in the air of the air vesicles and in the blood. Accordingly, when the air contains more of vapor than the blood, the substance passes into the blood; as soon as the conditions are reversed and the blood contains more of the drug than the air of the alveoli, it commences to pass backward. Hence the dose by inhalation depends on the concentration of the vapor and the length of time of its administration. On account of the promptness with which the agent can be made to pass either into or out of the blood, we have a very nice control of the quantity present in the blood by varying the concentration of the vapor. This is the reason why certain substances, as the general anesthetics, such as ether, chloroform, nitrous oxide or ethylene, are always administered by inhalation. Inhalation of amyl nitrite, obtainable in glass capsules (preferably covered with a cotton and gauzelike wrapping to take care of the splinters of glass), which are crushed in a handkerchief, offers the most rapid available method of securing nitrite action.

One of the simplest devices for vapor inhalation is the ordinary chloroform inhaler, on which the volatile medicament is dropped and through which the respired air is drawn, thus becoming impregnated with the vapor. Simpler still is the use of blotting paper or of a handkerchief.

In acute inflammatory conditions of the respiratory tract, the patient is apt to suffer from irritation, if too large a quantity of volatile oil is dropped on the inhaler or if the time of inhalation is extended too long. Ordinarily from 10 to 20 drops of a volatile oil or mixture is added to the absorbent material of the inhaler and the inhalation is continued at first about ten minutes every two, three or four hours. In the later stages of the disease, and after the patient has acquired tolerance, the inhalation may be continued for one-half or one hour at a time or longer. Often, if the use of such inhalation has to be continued, it is found that an inhalant that at first proves useful later seems to lose its effect. Under these circumstances, it is well to remember the general therapeutic fact that tolerance is established toward therapeutic as well as noxious irritation. Hence, to obtain continued benefit, we at times have to substitute a new agent, a succedaneum.

As vapor inhalation, we may prescribe menthol, 20 per cent, in alcohol. Ten drops of this may be inhaled from a sponge inhaler, or a handkerchief. Menthol is analgesic and lessens secretion; hence it is especially useful in acute catarrhs with profuse secretion. There are very simple "menthol inhalers" on the market that serve very well for medication of the nose. A vapor inhalation, to act as a deodorant and sedative in chronic bronchitis, in pulmonary abscess and gangrene, is creosote, spirit of chloroform, and alcohol, equal parts. One places 15 drops in the inhaler and inhales for from five to fifteen minutes every three hours.

4. Spraying, also called nebulization, atomization and pulverization, is the mechanical subdivision of liquids into exceedingly fine particles, constituting a veritable cloud or mist (*nebula*), which is to be inhaled. The apparatus for producing these sprays may be obtained with rubber hand-bulbs, useful for home treatment, while, for physician's office use, they are best driven by air drawn from a reservoir in which it may be compressed by a force pump. We should distinguish between two kinds of sprays, the coarse and the fine. The coarse kind, as previously stated, is to be preferred in the treatment of nasal and pharyngeal conditions. It is not only superior for the dislodgment of secretions, but affects the deeper passages less. Fine subdivision, on the other hand, is necessary in the treatment of the larynx and the bronchi, because the coarse is too heavy to be carried deeply by means of the respiratory air currents. It is probably quite impossible for even the finest droplets to reach the alveoli of the lungs.

Sprays enable us to obtain a larger variety of therapeutic effects than can be secured by other forms of inhalation.

Demulcents may be used, as freshly prepared decoction of althea or an emulsion composed of from 1 to 5 per cent of olive oil or sweet almond oil. If this is prepared with bitter almond water, a certain amount of local analgesic action may be secured in addition to the flavoring.

Expectorant action—by thinning the mucus—may be obtained by inhalation of alkaline fluids, such as 0.2 to 2 per cent solution of sodium or potassium carbonate or an alkaline mineral water. Sodium chloride solutions, unless extremely dilute, seem to be somewhat irritant in acute catarrhs of the respiratory mucous membrane.

Astringent action may be attained from 0.2 to 3 per cent solution of tannic acid, or by 2 per cent alum, either of which might be dissolved in water and glycerin, equal parts.

An antispasmodic inhalation for asthma recommended by Edens is composed of:

	Gm. or Cc.
Atropine sulphate	0.03 to 0.05
Cocaine hydrochloride	0.3 to 0.5
Potassium sulphate	0.3 to 0.5
Glycerin	3.0
Solution of epinephrine (1: 1,000) to make	30.0

If the mucosa is very sensitive, potassium sulphate may be eliminated and only 15 cc. of epinephrine solution used and enough physiologic sodium chloride solution to make 30 cc. The epinephrine solution is then best kept separately, and equal parts of the two solutions are mixed just before use. This inhalation is best administered by an inhaler driven from an oxygen tank, though other inhalers might be used less successfully. The patient inhales deeply with open mouth for one minute, and then rests for from three to five minutes so as to give the remedy a chance to act and an opportunity to penetrate more deeply into the bronchi at the next inhalation. Generally three or four inhalations of one minute each suffice to make respiration free and easy. During the inhalation, the eyes should be closed so as to prevent any of the material entering the conjunctiva. After the inhalation, the mouth should be rinsed with physiologic sodium chloride solution. The inhalations may be repeated as often as desired, as the amount absorbed, in view of the fine degree of subdivision, is exceedingly small. Hence, it is permissible to use the inhalation even at the beginning of mild attacks; and it seems that such aborting of each attack has a favorable influence on their repetition.

In hay-fever, in nervous rhinorrhea, and in all other conditions of the respiratory mucous membrane characterized by profuse secretion, one should in general avoid prescribing aqueous sprays. In such conditions oil sprays are better tolerated, and light liquid petrolatum is probably the most useful vehicle for this purpose. If a small quantity of volatile oil is added to liquid petrolatum, say, 1 per cent, the spray is soothing and applicable to acute catarrhal inflammations. If larger quantities are used, e. g., 25 per cent, the application becomes stimulating and useful in chronic conditions. In the prescribing of oil sprays, the solubility of medicinal agents in liquid petrolatum is of importance. As a general proposition, substances soluble in oil are soluble in liquid petrolatum. The National Formulary has a number of formulas for oil sprays, under the Latin heading Nebulae.

Thymol spray (N. F.) contains 1 per cent thymol. Eucalyptol spray (N. F.) contains 5 per cent eucalyptol. Menthol spray (N. F.) contains 2 per cent menthol. Compound menthol spray (N. F.) contains 1 per cent menthol, 1 per cent camphor, 0.5 per cent methyl salicylate, 0.2 per cent eucalyptol and 0.2 per cent oil of cinnamon. Aromatic oil spray (N. F.) contains all the ingredients of the compound menthol spray, but less of them and several other ingredients besides. It is unnecessarily complex.

For the sake of securing mastery over our prescriptions, so as to be able to modify them readily to meet the conditions of practice as they arise, the National Formulary preparations being neither very strong nor very mild, it is best, perhaps, to get into the habit of writing each ingredient and adjusting the strength in accordance with the indications. Camphor and menthol, of either or each from 1 to 2.5 per cent, with a flavoring of 0.5 per cent of volatile oil, as oil of cinnamon, in light liquid petrolatum might serve as an example. To this chlorbutanol, 1 per cent, might be added if analgesic action is desired. Epinephrine should not be added to mixtures containing volatile oil, as it soon becomes oxidized and discolored in their presence. If the vasoconstrictor action of epinephrine is desired, it is best to prescribe it separately.

A laryngeal inhalation should be administered to the patient while the anterior gauze-wrapped portion of the tongue is extended as far as possible out of the mouth and the operator compresses the nostrils to prevent nasal respiration, the patient inhaling deeply.

(To be continued)

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SATURDAY, FEBRUARY 20, 1926

HEREDITY AND OBESITY

The statement, frequently encountered, that obesity is merely the expression of an excess of intake of food over the bodily expenditures, is far from satisfactory to a critical student of the subject. There are at least a few obese persons who are fairly active in their habits and frugal in their diets; these, Du Bois[1] remarks, furnish us with the true problem of obesity. A question that obviously presents itself in this connection concerns the basal metabolism of the aberrant types. Do they differ from the normal by carrying out their fundamental exchange of energy more economically? This has been a question not easily answered, because of the difficulties of making tenable comparisons between the different persons concerned.

The obese carry a considerable amount of inactive adipose tissue in their bodies. Consequently, if the metabolism per unit of weight were used as a standard of comparison, the fat person would exhibit a low metabolism. Other modes of comparison also have inherent fallacies. However, when critical regard is directed to these circumstances it appears to be now firmly established that the basal metabolism in obesity is normal—not unduly lowered. The course of the metabolism of plethora, in contrast with the basal exchange, may be somewhat different. It has already been pointed out in The Journal[2] that, according to Strouse[3] and his collaborators in Chicago, the obese conserve the body fat and thus accumulate more, whereas normal and thin persons use up their food fat instead of storing it. Assuming a peculiarity of metabolism of such a sort, one naturally inquires whether adiposity of the ordinary form is inherited.

Most physiologists are disinclined to admit any hereditary factor in obesity. They insist, with Tileston,[4] for example, on attributing the large incidence of obesity in certain races entirely to their manner of life. This view has been criticized by Davenport.[5] In a statistical inquiry[6] among a large group of families, it appeared that both constitutional and cultural factors play a part in determining abnormalities of build. The constitutional factors may be regarded as not less important in determining the result than the cultural factors. According to Davenport there are at least three biotypes (or elementary species) of human beings in the population of this country characterized by special conditions of build. There is a slender, a medium, and at least one fleshy biotype. In some families there is only one factor, and in others there are two or more factors involved in build. In some cases these idiosyncrasies of build may be due to endocrine idiosyncrasies; in other cases, perhaps, to more general peculiarities of metabolism. These are rather indefinite generalizations on a subject, obesity, that is perhaps discussed by the laity and public press more frequently than any other nutritional disorder. As Du Bois has significantly remarked, the large amount of public interest is in marked contrast to the small amount of scientific information. We do not yet know, he adds, why certain persons grow fat.

BOVINE AND HUMAN TUBERCULOSIS

In 1898, Theobald Smith distinguished the bacillus of bovine tuberculosis as a separate type from that of human tuberculosis. Robert Koch in his earlier publications had considered the bacilli of the two diseases identical, but at the International Congress on Tuberculosis in London in 1901 he retracted his first expressions and went so far as to present evidence not only that the germs were of different type, but also that the bovine bacillus was incapable of infecting man. These views, coming from the world's most distinguished investigator in tuberculosis, had the good effect of raising a perfect storm of discussion, and stimulating exhaustive researches on the intercommunicability of the two diseases by special and official commissions in England, America and continental Europe. The investigations proved beyond question that the organism causing tuberculosis in cattle is also capable of infecting human beings. This was true in spite of the fact that certain differences in type were recognizable. The chief means of distinction proved to be in the virulence of these bacilli for cattle and the rabbit. As a general rule the bacillus of bovine tuberculosis was highly virulent for these animals, while that of human pulmonary tuberculosis was not. It was and still is conceded by all that considerable variability exists in strains of both types of bacillus, and that in some cases the type, bovine or human, is quite indeterminate. Calmette[1] summarizes the conclusion reached in the majority of recent works in the view that "there exists only one race of tubercle bacilli in mammals (*Bacillus tuberculosis-mammalium*), and that its adaptation to the body of man or of cattle has brought about its separation, not absolute, however, into two types of bacilli presenting certain differential characteristics, the human type and the bovine type."

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[1] Du Bois, E. F.: Basal Metabolism in Health and Disease, Philadelphia, Lea and Febiger, 1924.

[2] The Metabolism in Obesity, editorial, J. A. M. A. **85**: 1731 (Nov. 28) 1925.

[3] Strouse, Solomon; Wang, C. C., and Dye, M.: Studies on the Metabolism of Obesity, II, Basal Metabolism, Arch. Int. Med. **35**: 275 (Sept.) 1924. Wang, C. C.; Strouse, Solomon; and Saunders, A. D.: Studies on the Metabolism of Obesity, III, The Specific Dynamic Action of Food, ibid. **34**: 573 (Oct.) 1924; The Metabolism of Obesity, IV, The Distribution of Energy Production After Food, ibid. **36**: 397 (Sept.) 1925.

[4] Tileston, Wilder, in Barker's Endocrinology and Metabolism **4**, 1922.

[5] Davenport, C. B.: Body Build and Its Inheritance, Washington, Carnegie Institution, 1923.

[6] Davenport, C. B., and Nelson, Louise A.: Heredity and Culture as Factors in Body Build, Pub. Health Rep. **40**: 2601 (Nov. 27) 1925.

Isolated investigations carried on since the work of these commissions have not appreciably changed the prevailing views on the relation of bovine to human tuberculosis. The figures given by Park and Krumwiede[2] probably still represent with fair accuracy the situation in the United States. According to these investigators, all pulmonary tuberculosis is caused by the human type of bacillus, while about one tenth of the tuberculosis of bones, joints and lymph nodes in adults and a fourth of tuberculosis of this type in children is due to the bovine bacillus. The figures of the English Royal Commission on Tuberculosis and the Tuberkulose Arbeiten aus dem kaiserlichen Gesundheitsamte were in essential agreement. It appears, too, that from 6 to 10 per cent of deaths from tuberculosis below the age of 5 years are to be attributed to the action of the bovine type of bacillus, chiefly as a result of miliary tuberculosis and tuberculous meningitis. It is noteworthy that the two types are to a certain extent mutually exclusive. Pulmonary tuberculosis due to the human type, and the so-called surgical tuberculosis due to the bovine type of bacillus, are seldom found together.

The manner in which bacilli of bovine tuberculosis reach man has also been exhaustively studied. For an understanding of this it is necessary to know something of the extent and character of bovine tuberculosis. The disease is now endemic in all parts of the world. So variable, however, is the incidence in different localities, even in the same country, that a figure for average incidence has little meaning. The average figure obtained by the tuberculin reaction is in the neighborhood of 5 per cent for the United States, but the figure is over 80 per cent for certain regions. On the other hand, in certain counties in which tuberculin testing is prescribed by local law or custom and certified herds are common, the figure is 1 per cent or below.

Tuberculosis in cattle menaces human beings because of anatomic characteristics of the disease which permit the bacillus to enter the milk. Meat under ordinary conditions is not dangerous. Tuberculosis in cattle, while usually a chronic disease, is more prone to generalization than in man. Extensive caseonodular tuberculosis, of the type seen best in the less immunized races in man, is common in cattle. Chronic fibroplastic and ulcerative tuberculosis also occur, however. In mid and late stages a cow may be as truly consumptive as man, with cavitation of the lungs, mucopurulent sputum, extensive ulceration of the intestines, and myriads of tubercle bacilli in the feces. From the feces the udder is readily contaminated. Much, if not most, of the contamination of milk has this origin. The cow, however, is peculiarly likely to develop tuberculosis of the mammary gland, much more so than the human mother. This occurs, according to Martel[3] and Ostertag,[4] in from 2 to 4 per cent of tuberculous cattle. Pearson found it in 8.75 per cent of 120 tuberculous cows in Pennsylvania. The lesion usually affects only one fourth of the gland, but milk from the corresponding teat in advanced cases may contain as many as 100,000 bacilli to the cubic centimeter. There is good evidence, too, that tubercle bacilli may reach the milk from a distant focus through the blood stream without involvement of the mammary gland.

Accordingly, where tuberculosis of cattle is extensive, tubercle bacilli in the milk supply will be common, and, as we have seen, these bacilli are capable of infecting children, who are the greatest users of milk. Physicians and laymen alike are familiar with the methods used to combat the menace. Pasteurization, if properly done, destroys the bacilli. Human fallibility and negligence, however, prevent nation-wide perfection in this procedure. But it must be emphasized that commercial pasteurization requires constant vigilance for active control. The London *Lancet*, commenting on recent studies of the safety of pasteurization, said: "If commercial pasteurization is to ensure freedom from bovine tuberculous infection, the plant must be so designed that the milk passing through the machine is really brought up to a temperature of 62.5 C. and maintained thereat for half an hour. Nothing else will serve." Furthermore, constant inspections are required to make certain that all of the milk passing through the apparatus is being subjected to the heat for the required period. The United States Department of Agriculture and many other public and private agencies have for years sought to eliminate bovine tuberculosis by condemning and slaughtering infected cattle.

Condemnation and slaughter are effective means of insuring a safe milk supply, as far as tuberculosis is concerned, but it must be realized that the price will be tremendous. Certain lifelong students of tuberculosis, notably Calmette, assert that the goal of a race of cattle free from tuberculosis is impossible to attain by this means, and that tuberculization of cattle is progressing today as surely as tuberculization of the human race has done in the past. The fact that thousands of cattle react to tuberculin just as thousands of men do, from the presence of a more or less well encapsulated focus of latent infection, is used as a potent argument against the establishment of slaughter as a routine following positive tuberculin reaction.

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[1] Calmette, A.: L'infection bacillaire et la tuberculose chez l'homme et chez les animaux, ed. 2, Paris, 1922, p. 307.

[2] Park, W. H., and Krumwiede, Charles: J. M. Res. 27: 109, 1913.

[3] Martel, cited by Calmette, p. 317.

[4] Ostertag: Untersuchungen über den T [illegible] von Kühen, welche auf Tuberkulin reagirt h[illegible] der Tuberculose aber noch nicht zeigen, Zt [illegible] 38: 455, 1901.

Man has come through a period in which his tuberculosis was much more severe than it is today, by a process of racial immunization in which survival of the fittest has played a big part. It is proposed to go beyond the operation of this principle of natural selection in the case of cattle. There would be no objection to this lack of immunity if the possibility of contact with sources of infection were likewise consistently reduced, but in these days of shipment and reshipment it is a question whether this is even approximately possible.

The failures of vaccination of cattle as attempted in 1905-1910 should not destroy all our hope. New methods are being proposed from time to time. The results sound encouraging, and the scientific standing of several of the proponents warrants serious attention. One fact that is unquestionable is that infection of any susceptible animal heightens its resistance to reinfection. A method of vaccination against tuberculosis may yet be evolved which will be at the same time effective and harmless.

ACACIA AND FUNDAMENTAL ASPECTS OF INTRAVENOUS INJECTIONS

The harmfulness of acacia in the treatment of shock and hemorrhage has been pointed out repeatedly. The changes resulting from the use of this otherwise inert agent bear on the many sided question of intravenous therapy. Investigations of this subject by Hanzlik and his associates in this country during the last six years, supported by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry, indicate that a variety of agents, including acacia, produce physical and chemical changes in the blood and tissues of different species. Among such changes are hemagglutination and hemolysis, pulmonary thrombosis and hemorrhage, darkening and rapid sedimentation of the blood, lowering of the p_H, increases in lactic acid, diminution in carbon dioxide, and changes in hemoglobin, pulse, blood pressure and respiration. Obviously, such changes suggest important fundamental physical and chemical changes as the basis of the reactions resulting from intravenous injections. Moreover, they appear to be of general biologic significance, particularly in pharmacology and pathology, both of which employ foreign substances for interference with, or disturbance of, normal functions. The logic of this is well sustained by the recent work of Applemans,[1] of the University of Louvain laboratory of therapeutics, on the intravenous effects of acacia.

Applemans compared the effects of 6 per cent acacia on the viscosity of oxalated blood and sedimentation of corpuscles in vitro with the changes in these physical factors of the blood after intravenous injection in rabbits. He found, in confirmation of Hanzlik and his associates, that the blood after injection of acacia is definitely altered. Its viscosity was much higher than mixtures of equivalent quantities of blood and acacia solution in vitro. In fact, the blood was so thick at times that its viscosity could not be accurately determined. This increase in viscosity coincided with an increase in the concentration of acacia in the blood, for the injected acacia remained in the circulation during long periods (more than three days). The blood volume adjusted itself to the normal more quickly than the removal of acacia was accomplished, thus causing the relative increase in acacia in the blood. The rapidity of corpuscular sedimentation was greatly increased after injection of the acacia, while the sedimentation rate in vitro was much less. Apparently the blood was less stable after the acacia, and this was not due to hydremic plethora. Control solutions of sodium chloride and sodium bromide produced no such effects.

From his results, Applemans makes some interesting and important suggestions. There is, is course, some injury to the corpuscles and changes in blood colloids. There seems to be a physiology of viscosity, for this constant may be affected by the same agent differently after injection. Ordinarily, low viscosity and increased rate of sedimentation go hand in hand; but after acacia the reverse occurs, for the rate of sedimentation is increased and the viscosity high. The marked indifference of the reticulo-endothelial system and macrophages to the large quantity of acacia as foreign material in the circulation is an unusual situation, for ordinarily and almost invariably these mechanisms dispose of foreign material with great avidity. Do they refuse the inert acacia, or have they been overwhelmed, or perhaps injured, by it? This question among others cannot be answered now, but such results open up new vistas in experimental pathology and immunology.

Thus, from the practical side the harmfulness of the intravenous use of acacia solution is reiterated. In a recent address, Gesell[2] of the physiologic laboratory of the University of Michigan warns that the greatest care should be exercised in the use of this blood substitute in man, for in his physiologic experiments extremely toxic effects with a large drop in blood pressure were not uncommon. This warning may be extended to other blood substitutes and, in fact, to intravenous injections in general.

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[1] Applemans, M.: Les injections isovisqueuses dans le sang, Arch. internat. de méd. exp. **2**: 111, 1925.

[2] Gesell, R.: Another Outlook on the Chemical Regulation of Respiration, Science **63**: 58, 1926.

Current Comment

INSULIN IN EXCESSIVE VOMITING AND IN ECLAMPSIA

In the long fight against death[1] incident to pregnancy, a definite gain seems to have been made against excessive vomiting of pregnancy and of eclampsia. As late as 1923, but little progress had been made in determining the etiology and scarcely more in fixing on the treatment of eclampsia. At that time, Williams[2] gave its incidence as something less than 1 per cent of women who enter lying-in hospitals, and its frequency in general as about once in every 500 labors. The maternal mortality, he determined to be between 20 and 25 per cent.[3] Ordinary vomiting of pregnancy[4] was estimated to occur in 50 per cent and pernicious vomiting in 0.1 per cent of pregnant women. In 1924[5] and 1925,[6] Thalhimer extended his treatment of postoperative, nondiabetic acidosis to include cases of toxemic vomiting of pregnancy. Briefly, the method consisted in intravenous administration of about 1,000 cc. of warm 10 per cent glucose solution at the rate of from 200 to 300 cc. an hour. In addition, fifteen minutes after the injection is started 10 insulin units is given hypodermically. More insulin is given at intervals until 30 units to the thousand cubic centimeters of glucose solution has been given. Although Thalhimer gave due credit to Titus, Hoffman and Givens[7] and to Duncan and Harding,[8] who had administered glucose alone in cases of this sort, his method of combining insulin with glucose seemed to give better results than did glucose alone. Toward the end of one of his articles[5] on this subject, Thalhimer said: "Also, some patients with eclampsia, especially those with ketosis, may be benefited by this method of insulin treatment, but there has not yet been opportunity to treat any of these." In the discussion of another of his papers,[6] replying to a question by Dr. Harold Bailey as to the use of his method in eclampsia, Thalhimer reported partial benefit to one eclamptic patient from the treatment. More recently, in a preliminary report[9] that is too brief to include complete references to previous work, it is shown that eclampsia may be treated by a combination of insulin and glucose together with a modified Stroganoff treatment. In the event of coma or semiconsciousness following a convulsion, Stander and Duncan begin the modified Stroganoff treatment as soon as the patient is admitted, and immediately determine the sugar content and carbon dioxide combining power of the blood. If the blood sugar is unduly increased and the carbon dioxide combining power unduly decreased, from 15 to 25 units of insulin is given. About 2 Gm. of glucose is usually given to each unit of insulin. The authors recommend to the *general practitioner that, in the presence of* persisting coma or semiconsciousness following convulsion, insulin and glucose be given whether or not laboratory determinations are available. Deaths from pernicious vomiting and eclampsia may soon be deductible from the total of maternal mortality.

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[1] Reporting of Maternal Deaths, Current Comment, J. A. M. A. **86**: 421 (Feb. 6) 1926.

[2] Williams, J. W.: Obstetrics, ed. 5, p. 597.

[3] Williams, J. W.: Obstetrics, ed. 5, p. 620.

[4] Williams, J. W.: Obstetrics, ed. 5, pp. 578, 579.

[5] Thalhimer, William: Insulin Treatment of the Toxemic Vomiting of Pregnancy, J. A. M. A. **82**: 696 (March 1) 1924.

[6] Thalhimer, William: Insulin and Glucose Treatment of Excessive Vomiting of Pregnancy, Am. J. Obst. & Gynec. **9**: 673 (May) 1925 (*reprint*).

[7] Titus, Paul; Hoffman, G. L., and Givens, M. H.: The Rôle of Carbohydrates in the Treatment of Toxemias of Early Pregnancy, J. A. M. A. **74**: 777 (March 20) 1920.

[8] Duncan, J. W., and Harding, M. E.: Canad. M. A. J. **8**: 1057 (Dec. 18) 1918.

[9] Stander, H. J., and Duncan, E. E.: The Use of Insulin in Eclampsia, Am. J. Obst. & Gynec. **10**: 823 (Dec.) 1925.

VARIATION IN DIPHTHERIA BACILLI

The variable morphology of diphtheria bacilli, combined with the generally current misinformation on the subject, has caused embarrassment to many a young, well informed laboratory technician. The impression is made that the Klebs-Loeffler bacillus is a club-shaped organism—whatever may be meant by club-shaped—that it has a dark spot at each end, one larger than the other, and that the two dark spots are connected by a membrane or network. That sounds so simple to the clinician who seldom, if ever, looks through a microscope that he cannot reconcile his preconceived ideas with the actual morphology in a given case. He has "seen diphtheria, and it did not look like that!" The technician can only insist that he knows what he is talking about. Recent investigations tend to show that there is no typical organism. From a study of single organisms taken from various cultures, Crowell[1] concludes that "a fluctuating variation has been shown by the development of barred Wesbrook types from the solid forms, but a real mutation has been shown by the development of a nontoxic strain." Thus, typical toxic diphtheria bacilli apparently yield both toxic and nontoxic forms, according to hereditary and environmental factors not yet established. Morphology as revealed by present methods seems to have no relation to the virulence of the descendants of such organisms, but the encouraging news is offered that the nontoxic strains which may develop are permanently nontoxic.

HOSPITAL FACILITIES AND SURGICAL TUBERCULOSIS

Recently, surgery has entered greatly into the treatment of pulmonary tuberculosis. Certain types of the disease, formerly hopeless, have yielded to artificially induced pneumothorax applied by the unilateral, the alternate bilateral or the partial simultaneous bilateral methods. Extrapleural thoracoplasty, injection of oil and phrenicectomy have likewise prolonged and possibly saved many lives. Together with this advance in treatment has come the problem of making surgery available to those who require it without endangering others. One body of authority asserts that "there is some risk in living in the same room even with a careful consumptive."[2] and that treatment of tuberculosis in general hospitals should be avoided so far as possible unless special wards are provided for the patients.[3] This opinion is supported by a few of the specialists to whom Dr. Adolphus Knopf [4] recently sent a questionnaire. On the other hand, the great majority of those who replied to this questionnaire, together with Dr. Knopf himself, reinforce the belief of Dr. Willy Meyer [5] that although children may become infected from tuberculous patients, there is practically no danger to adults of contracting the disease in hospitals. Dr. Meyer asserts that scarcely ever has a healthy physician, nurse or employee of a tuberculosis hospital or sanatorium contracted the disease. Here, then, is the necessity of balancing benefits, of compromising with the ideal and attaining the practicable. Tuberculous patients requiring surgery cannot wait. Many sanatoriums, furthermore, are not equipped, either in personnel or in operating or nursing facilities, to give their patients the requisite surgical treatment. Until sanatorium space is adequate and until sanatoriums possess sufficient surgeons and surgical facilities, surgical wards in general hospitals must be made available to those tuberculous patients to whom operation means a chance to live.

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[1] Crowell, M. J.: Morphological and Physiological Variations in the Descendants of a Single Diphtheria Bacillus, J. Bacteriol. **11**: 65 (Jan.) 1926.

[2] Vaughan, V. C.: Epidemiology and Public Health **1**: 469, 1922.

Association News

THE DALLAS SESSION

Railroad Rates to Dallas

The passenger associations throughout the United States have authorized a rate of one and one-half fares for the benefit of members of the American Medical Association who will attend the Seventy-Seventh Annual Session, to be held in Dallas, April 19-23. The Canadian Passenger Association has also authorized these reduced rates from points in Canada east of and including Armstrong, Fort William and Sault Ste. Marie. *In order to secure the reduced rates, it will be necessary for each member to secure a certificate from the ticket agent when he purchases his ticket to Dallas.* The certificate must be certified by the Secretary of the American Medical Association. This may be done at the Registration Bureau at the State Fair Grounds in Dallas. The certificate must then be validated by a representative of the railroads who will be on duty near the Registration Bureau. When the certificate is so certified and validated, it will entitle its holder to purchase a return ticket to his home, over the same route traveled to Dallas, at one-half fare.

The certificate referred to is not a receipt for money paid for a ticket. *Be sure to ask your railroad ticket agent for a CERTIFICATE when you purchase your ticket to Dallas.*

The dates of sale of tickets to Dallas will be April 15 to 21, inclusive, in the territories of the Southwestern Passenger Association, the New England Passenger Association, the Trunk Line Association, the Central Passenger Association, the Southeastern Passenger Association and the Canadian Passenger Association. In the Transcontinental and Western Passenger Associations' territory the dates of sale of tickets from Minnesota, Michigan, Montana, North Dakota, South Dakota, Utah and Wisconsin will be April 14 to 20; from Arizona, British Columbia, California, Idaho, Nevada, Oregon and Washington, April 13 to 19, and from Colorado, Illinois, Iowa, Kansas, Missouri, Nebraska, New Mexico and Wyoming, April 15-21. Certificates *properly certified and validated* will be honored for purchasing tickets for the return journey at one-half fare up to and including April 27, *but these certificates will not be honored after that date.* No refund of fare will be made on account of failure to obtain proper certificate when ticket to Dallas is purchased, nor on account of failure to present validated certificate when purchasing return ticket. The return ticket must be used over the same route as that traveled going to Dallas. Return tickets issued at the reduced rate will not be good on any limited train on which such reduced fare transportation is not honored.

Cancer Exhibit Under the Auspices of the Section on Dermatology and Syphilology

The Committee on Exhibits of the Section on Dermatology and Syphilology announces that the arrangements for the cancer exhibit are practically complete; indications are that the exhibit will be as large a success as was the section exhibit last year dealing with syphilis.

The exhibit will consist of numerous photographs illustrating not only the varying clinical appearances of cancer, particularly as applied to the skin, but other conditions that simulate cancer and must be diagnosed differentially. The various features will be grouped on the basis of making the exhibit educational and instructive to the general medical public. There will be numerous histologic sections, generally amplified by personal demonstration and employing the projecting microscope. In another section of the exhibit, the results of cancer research will be shown. The exhibit promises to surpass any that have been given in the way of the objective demonstration of cancer. The committee in charge is composed of Drs. I. L. McGlasson, Fred Weidman and E. D. Crutchfield.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Dr. Alvarez Leaves California.—Dr. Walter C. Alvarez, associate professor of research medicine at the University of California Medical School, San Francisco, has accepted a position at the Mayo Clinic, Rochester, Minn.

Virulent Smallpox.—The state board of health has issued a warning, it is reported, that an extremely virulent type of smallpox is prevalent in California and that all persons who have not been successfully vaccinated recently should take that precaution. In the first thirty-five days of this year, there are said to have been 443 cases of smallpox and forty-three deaths reported.

Society News.—Dr. Frank W. Lynch, professor of obstetrics and gynecology, University of California Medical School, San Francisco, addressed the San Joaquin County Medical Society recently on "Indications and Technic for Cesarean Section."——Dr. Charles Ianne, assistant medical director, Arroyo Sanatorium, Livermore, addressed the Sonoma County Medical Society, recently, on "Heliotherapy."——The secretary of the Sacramento County Medical Society recently addressed a questionnaire to each member, concerning service in the medical officers' reserve corps, and forty-four members indicated a willingness to join the corps; there was an equal number who were unwilling to join. The society has become the sponsor by resolution for the four reserve units within its territory.

COLORADO

Hospital News.—Dr. Harry J. Corper, Denver, addressed the directors of the National Jewish Hospital for Consumptives at their annual meeting in New York, January 10.——Dr. M. H. Watt, Wellington, N. Z., deputy director general, New Zealand Health Department, recently spent two days visiting Denver hospitals; Dr. Watt left, January 10, for St. Louis, and will visit other hospitals and medical centers.——The new County Hospital at Fort Collins has been opened.——The Jewish Consumptive Relief Society of Denver has launched a campaign for $1,000,000.

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[3] Vaughan, V. C.: Epidemiology and Public Health **1**: 494, 1922.

[4] Knopf, S. A.: The Placing in General Surgical Wards of Patients on Whom Thoracoplasty Has Been Performed, Arch. Surg. **12**: 320 (Jan.) 1926.

[5] Meyer, Willy: Patients with Pulmonary Tuberculosis in General Hospitals, Arch. Surg. **12**: 311 (Jan.) 1926.

DISTRICT OF COLUMBIA

Society News.—Dr. Jacques E. Forestier, Paris, France, addressed the Medical Society of the District of Columbia, January 20, on "Roentgen-Ray Examination with Iodized Oil Injection."——Dr. Daniel D. V. Stuart, Jr., addressed the Medical Society of the District of Columbia, January 13, on "A Rationalistic View of Psychoneurosis."——Mr. Emile Berliner, a former president of the Washington Tuberculosis Association, has presented to the National Tuberculosis Association a large silver trophy to be awarded next December by a committee to that state tuberculosis association which makes the best record in the number of children treated in schools with benefit to school work and advancement in measures of hygiene.

Health Association Formed.—Final steps were taken in the organization of the District of Columbia Public Health Association at a meeting, February 8. The purpose of the organization will be to take an active interest in affairs that relate to public health in the District of Columbia. Dr. Victor C. Vaughan was elected president; Drs. George M. Kober and William C. Fowler, vice presidents; James A. Tobey, secretary, and W. C. Cox, treasurer. Membership was divided into four groups: active, to embrace those professionally engaged in public health work; associate, to include those interested other than professionally; sustaining, for those who will contribute money, and honorary, for persons not exceeding two each year, rendering noteworthy service to the public. Of the local health matters that may receive the support of the new organization, the secretary enumerated two as examples: better medical inspection service in the public health service, and sewage disposal in Washington, with the attendant problem presented by pollution of the Potomac River.

GEORGIA

Miscellaneous Items.—Dr. Stewart R. Roberts, Atlanta, has been elected president of the staff of Wesley Memorial Hospital, Emory University.——Ground has been broken for the new $500,000 Georgia Baptist Hospital, Atlanta.——The Randolph County Medical Society held a clinic, February 4, at Patterson Hospital, Cuthbert; the program included cases under general medicine, orthopedics and pediatrics; they were discussed by members of the faculty of the University of Georgia Medical School.

Expansion of Medical School.—Of the $10,000,000 expansion fund now being raised by Emory University, Atlanta, $4,500,000 will be for the expansion of the medical school. The latter sum will be used, the *Journal of the Kansas Medical Society* says, to endow the school of medicine ($2,000,000), to endow the Wesley Memorial Hospital ($2,000,000), for a pathology laboratory and administration building ($225,000), for a nurses' home ($200,000), and to complete the chemistry building ($75,000).

ILLINOIS

McKinley Hospital Dedicated.—The new $200,000 hospital donated by Sen. William B. McKinley, Champaign, for the care of students at the University of Illinois, Urbana, was formally dedicated, February 13. It conforms to the style of architecture of other new campus buildings, and is located in the University of Illinois Forestry at the west end of Indiana Avenue, Urbana.

Personal.—Dr. John W. H. Pollard, former health officer of Quincy, has been appointed health superintendent of the eleventh district of Illinois, comprising Adams, Hancock, McDonough, Schuyler, Brown, Pike and Calhoun counties, to which he will devote full time; his headquarters will be in Quincy.——Dr. Harold Swanberg, Quincy, has been elected president of the Central Illinois Radiological Society.——Dr. Daniel M. Ottis has been appointed on the board of the Sangamon County Tuberculosis Sanatorium to succeed the late Dr. L. C. Taylor.——Dr. Perl K. Andrews, Danville, has been appointed county physician to succeed Dr. Everett E. Howard, resigned. Dr. Howard is moving to Crawfordsville, Ind.

Chicago

Tuberculosis Institute.—Under the auspices of the National Tuberculosis Association and the Chicago Tuberculosis Institute a regional institute will be conducted at the University of Chicago, March 8-20, for health workers in all nearby states; another such institute will be conducted at Ohio State University, Columbus, March 15-22. Philip P. Jacobs, Ph.D., of the National Tuberculosis Association, is in charge of the program; authoritative speakers will present various phases of the tuberculosis problem. The round table method will be used. The institute will be open to health commissioners, tuberculosis workers and nurses.

Society News.—Dr. Kellogg Speed addressed a joint meeting of the Chicago Medical Society and the North Shore Branch, February 3, on "Fractures of the Head of the Radius," and Dr. George E. Baxter, on "Important Factors in the Management of Sick Infants."——Dr. Herman L. Horwitz addressed the Chicago Tuberculosis Society, February 11, at the Brevoort Hotel, on "Cardiac Index—A Means of Prognosis in Pulmonary Tuberculosis."——Among the speakers at the February 1 meeting of the Chicago Laryngological and Otological Society were Dr. Harry L. Pollock, whose subject was "An Unusual Mastoid Region Tumor."——Dr. John A. Wolfer addressed the Chicago Surgical Society, February 5, on "Carcinoid Tumors of the Intestine."——Dr. Sydney Walker, Jr., addressed the Chicago Society of Industrial Medicine and Surgery, February 1, on "The Treatment of Superficial and Deep Eye Infections."——Dr. Jerome M. Lynch, New York, addressed the Chicago Medical Society, February 17, on "Cancer of the Rectum" and Dr. Joseph Felsen, New York, gave a demonstration of pathologic specimens of cancer of the rectum——Among others, Drs. Milton M and Bernard Portis will address the Institute of Medicine, Chicago, February 26, at the City Club, on "Experimental High Intestinal Obstruction: Relief by Irrigation and Control of Alkalosis", Dr. Edward A. Oliver, on "Dermatitis Venenata. Report of a Case of Unusual Etiology," and Dr. Dallas B. Phemister, on "Radium Necrosis of Bone."

KANSAS

Calendar Reform.—Dr. George W. Davis, Ottawa, has submitted a suggestion to the League of Nations for a new universal calendar, which will be acted on, it is expected, at the March meeting of the calendar reform committee.

Council Meeting.—At the midwinter meeting of the council of the Kansas Medical Society, Kansas City, January 19, it was decided to hold the sixtieth annual meeting of the society in that city, May 4-6. The secretary was instructed to prepare the program from their own members and to secure from three to six physicians of national reputation to present papers, and also a speaker from the headquarters of the American Medical Association Dr. W. E. McVey was unanimously elected editor of the *Journal of the Kansas Medical Society*.

KENTUCKY

Bill to Sell Hospital.—A bill has been introduced into the state senate, which would authorize the sale of the Eastern Kentucky State Hospital, and the reinvestment of the proceeds of the sale in a new hospital plant near Lexington The present buildings of the Eastern Kentucky State Hospital are said to be inadequate for the proper care and treatment of the patients.

Hospital Project Abandoned.—The Federal Board of Hospitalization has abandoned the plan of building a Veterans' Bureau Hospital at Pikesville, for which a tract of 34 acres had been purchased. General Hines, director of the Veterans' Bureau, is reported to have said that the project was abandoned on his recommendation, and that he would ask authority of Congress to sell the site.

Personal.—Dr. Robert M. Hathaway has been reelected director of the Daviess County Health Department.——Dr. Herbert H. Hunt has been appointed city health officer of Mayfield——Dr Thomas L. Taylor, who has been superintendent of the Feeble Minded Institute, Frankfort, for several years, has resigned, and will leave, March 1, for Hawaii to be superintendent of a territorial institution near Honolulu.

LOUISIANA

French Hospital Opens to Public.—It was announced at the eighty-third anniversary ball of the Société Française, New Orleans, February 4, that the French Hospital on Orleans Street will be remodeled and reopened to the public; for two years the hospital has been closed to all except members of the society, on account of lack of room and equipment. The hospital was founded nearly seventy years ago.

Personal.—Dr. Adolph Henriques, assistant professor of radiology, Tulane University of Louisiana School of Medicine, New Orleans, has gone to France to study the treatment of high blood pressure by radiologic methods, and to observe developments in Europe in the roentgen-ray treatment of cancer and senility.——Dr. Helen A. Moore of the American

Child Health Association arrived in New Orleans, January 23, to spend three months in Louisiana in training midwives. ——Dr. Wilmer R. Batt of the Bureau of the Census, Washington, D. C., spent several days early in February at the offices of the state board of health, New Orleans, inspecting the records of the Bureau of Vital Statistics.——Dr. Felix Brunot, who has been on the staff of the U. S. Marine Hospital at New Orleans, has been assigned to duty at the Marine Hospital, San Francisco.——On February 6, about a thousand friends of Dr. and Mrs. Charles F. Gelbke of Gretna marched to their residence to present a silver service at the celebration of their twenty-fifth wedding anniversary; Dr. Gelbke is the mayor of Gretna.

MARYLAND

Gifts to Johns Hopkins University.—Two $100,000 gifts have been received by the Johns Hopkins Half Century Committee, making a total of $1,358,283 collected, and the appeal will be continued in Maryland another week. It is hoped to raise, in Maryland, $1,500,000. Mr. and Mrs. Henry Walters are the donors of the first $100,000, and Mr. R. Brent Keyser, president of the board of trustees of the university, of the second $100,000.

Regional Health Meeting.—The first of a series of regional conferences to be held throughout the state dealing with local health problems was held, February 17, at Frederick. Deputy state health officials, representing Frederick, Howard, Carroll and Montgomery counties among others, were present. Dr. Elmer C. Kefauver, health officer of Frederick County, presided, and among the speakers were: Dr. Robert H. Riley, assistant director, state department of health; Dr. James H. Mason Knox, Jr., chief, bureau of child hygiene, state department of health; Dr. Arthur P. Herring, commissioner of mental hygiene, and Dr. Josiah S. Brown, deputy state health officer of Baltimore County. Medical examination of school children, tuberculosis clinics, mental hygiene clinics and immunization against diphtheria were discussed.

MASSACHUSETTS

The Dunham Lectures.—The faculty of medicine of Harvard University, Boston, announces that four lectures will be given under the Edward K. Dunham Lectureship for the Promotion of Medical Sciences, February 24 and 26, and March 1 and 3, at building C, Harvard Medical School, 5 o'clock. The speaker will be Dr. Ross G. Harrison, Bronson professor of comparative anatomy, Yale University, New Haven, Conn., and his subject, "Recent Advances in Experimental Embryology."

Massachusetts General Hospital Appeals for Funds.—The trustees of the Massachusetts General Hospital, Boston, announced, February 5, that an appeal will soon be made to the people of New England for $3,250,000, for the construction of additional hospital facilities and for the endowment of research and education in medicine and surgery. The Massachusetts General Hospital has had a large part in making medical history in the United States. Its records show that almost every state has been represented among its patients; those patients who came from New England have been from 574 different places in Massachusetts, from 222 places in New Hampshire, from seventy-seven places in Vermont, from 202 places in Maine, sixty places in Connecticut and from forty-eight places in Rhode Island. The development program includes: (1) additions to the Bullfinch Building; (2) a hospital for people of moderate means, to contain about 300 beds, and for which Mrs. Mary Richardson has given $1,000,000; (3) development of the outpatient building; (4) a new ward building; (5) extension of the research laboratories; (6) extension of the roentgen-ray and radium department, and (9) a larger boiler house. It is hoped by the trustees that all of New England will respond to the coming appeal, and small gifts, as well as large, will be welcomed.

MICHIGAN

Society News.—An explosion occurred in the Wayne County Medical Society Clubhouse, Detroit, Dec. 24, 1925, which blew out many windows in the building and caused damage estimated at $6,000.

Hospital News.—Overcrowded conditions at the new University of Michigan Hospital, Ann Arbor, necessitate the opening of the old hospital building, which formerly accommodated all patients; the old structure which has been under repair for the last four months, will add about 300 beds to the institution.

Personal.—Dr. Guy Rexford Bullen, for a number of years school physician for Jackson, has resigned to engage in general practice.——Dr. James H. Hudson, Merrill, was recently prosecuted for failure to report births, according to the *Journal of the Michigan State Medical Society*, and was fined $20 and costs. The state department of health is investigating all similar violations of the law that come to its notice, and will prosecute violations of this kind.——Dr. Cyril A. Youngs, who has been city physician of Kalamazoo for seven years, has resigned, effective March 1, to engage in private practice.——A testimonial dinner was given recently to Dr. Constantine Leventis, Detroit, on the eve of his departure for Arizona, where he will continue to work on the development of a serum for the treatment of tuberculosis.

MINNESOTA

Hospital News.—The U. S. Veterans' Bureau Neuropsychiatric Hospital, to be built on the Fort Snelling Reservation, will comprise twenty buildings costing $1,200,000; bids for the construction work were opened, January 26.

Society News.—Dr. Arthur F. Bratrud, Minneapolis, addressed the Hennepin County Medical Society, Minneapolis, February 1, on "Local Anesthesia in Surgery of the Lower Jaw and Neck"; Dr. Frederick A. Erb has been elected president of the society for 1926.

Personal.—Dr. Solon Marx White, Minneapolis, has been elected president of the state board of health, and Dr. Albert J. Chesley, St. Paul, secretary of the board, reelected.——Dr. Jacob W. Magelssen, Rushford, observed his sixtieth year in the practice of medicine last month. Dr. Magelssen, now 83, is still in practice; he graduated from Rush Medical College in 1866.

MISSOURI

Society Home Nears Completion.—The St. Louis Medical Society has expended $73,000 on its new building, and has $75,000 to complete the structure. The $45,000 donation by the Shapleigh family, and the agreement of the society to contribute an equal amount, make possible the completion of the structure in May.

Society News.—Dr. Arthur M. Alden addressed the St. Louis Medical Society, February 2, on "Gastro-Intestinal Disturbances in Infants as a Result of Streptococcus Infection in the Ears."——The East St. Louis Medical Society invited St. Louis physicians to attend a meeting at the chamber of commerce to be addressed by Dr. Jacob C. Krafft, president, Illinois State Medical Society, February 4.——Dr. Arthur E. Hertzler, Kansas City, addressed the St. Louis Medical Society, February 9, on "The Classification of Goiter."——Dr Walter Lancaster, Boston, conducted an operative clinic at St. Mary's Hospital, St. Louis, January 23, and was entertained at dinner by the ophthalmic section of the St. Louis Medical Society in the evening.

Personal.—Dr. Don A. Barnhart, Huntsville, has been appointed county physician, to succeed Dr. General G. Bragg, who has been county physician for two years.——Dr. Eugene M. Lucke has been appointed health commissioner of Marion. Dr. Lucke for two years has been director of the Gentry County Health Department.——Dr. Edward L. Beal, Republic, was elected president of the Ozark Fruit Growers Association, January 6.——Dr. Roy R. Miller, Mound City, has been appointed deputy state health commissioner and county physician of Holt County for one year, beginning March 1.——Dr. David C. Enloe has been appointed county health commissioner of Cole County to succeed Dr. Harden T. Leach.——Dr. O. R. Reynolds, Advance, has been appointed deputy state health officer, and will move to Bloomfield.

NEW YORK

Women's Medical Society.—The Women's Medical Society of the State of New York has an Educational Committee which aims to assist women students obtain a medical education. The committee is making an appeal for funds for this work. The Women's Medical Society of the State of New York will hold its annual meeting at the Hotel McAlpin, New York, March 29, at which time the Medical Society of the State of New York will be in session; among others at the banquet, Dr. Wendell C. Phillips, President-Elect of the American Medical Association, Dr. Nathan B. Van Etten, president of the Medical Society of the State of New York, and Dr. Ethel D. Brown, president of the Women's Medical Society of the State of New York, will speak.

Diphtheria Eradication Campaign.—Representatives of various state departments and state wide health organizations held a conference in Albany, February 2, to consider plans by which to rid the state of New York of diphtheria within the next five years. It was pointed out that ninety-five out of every 100,000 people in the state died of diphtheria during the period 1885-1894, and that in the next ten years following the introduction of antitoxin the death rate was cut in two. There was a similar reduction in the death rate in the period 1905-1914; the use of toxin-antitoxin was begun about 1915, and in the last ten years, the death rate has been 15.5 per hundred thousand. Representatives from various cities in the state summarized what had been done in their communities toward eliminating diphtheria by means of immunization.

New York City

Dr. Fleming Appointed Superintendent.—It was announced, January 30, that Dr. Mark L. Fleming became general superintendent of Bellevue Hospital, January 1. Dr. Fleming had been acting in that capacity since last October, when Dr. George O'Hanlon resigned to become superintendent of the Jersey City Hospital. Dr. Fleming has been connected with the Bellevue Hospital for twenty years.

Moving Pictures for Lepers.—The New York *Times* notes that the Motion Picture Producers and Distributors of America have collected about 200 reels of comedies, feature and educational films, including "Chu Chin Chow," "The Great Divide" and "Tess of the D'Urbervilles," which have been donated, and are now on their way to Palo Seco, a leper colony near Balboa, Canal Zone. The films will never leave the leper colony.

Society News.—The Riverside Practitioners' Society is having motion pictures made of each of its forty-five members in order to have a "living" history; the records are being made under the direction of Drs. Orrin S. Wightman and Theron W. Kilmer.——At a joint meeting of the Bronx Pediatric and the Bronx Dermatological societies, February 10, the scientific session comprised a discussion of "Recent Advances in the Common Dermatoses of Childhood."——At the first organization meeting of the New York Society for Clinical Research, February 5, Dr. Jacob Gutman was elected president, Dr. Alexander Kaye, secretary, and Dr. Charles Herrman, treasurer; the purpose of the organization is to investigate the adaptibility of the latest researches to clinical medicine.

Italian Hospital Fund.—The movement inaugurated by the Italian Medical Society of Brooklyn for an Italian hospital was advanced at a dinner, February 8, at the Hotel Bossert, when it was announced that the $100,000 primary fund for the hospital had been oversubscribed, and that the purchase of a site near Prospect Park, on St. John's Place, was being completed. It was announced, also, that the Italian Medical Society had pledged an additional $100,000 for equipping the hospital. About a million dollars additional will be required to complete the project. Among the speakers at the dinner were the health commissioner, Dr. Louis I. Harris and Dr. John Richard Kevin of the state board of charities; Dr. Barrera, president of the Italian Medical Society, was toastmaster.

Personal.—Dr. Alec N. Thompson, secretary, Kings County Medical Society, has been appointed editor of the *Long Island Medical Journal*, succeeding Dr. Frank Overton.——Dr. George L. Brodhead has been appointed director of the obstetric service at the new Knickerbocker Hospital.——Dr. Walter T. Dannreuther, professor of gynecology at the New York Post-Graduate Medical School, was the guest of honor at a dinner given by Dr. Edward Frankel, Jr., at the Columbia University Club, February 10.——Dr. Walter A. Sherwood, Brooklyn, has been elected president for 1926 of the Associated Physicians of Long Island.——Dr. James Herbert Lawson has been elected commander of the Caduceus Post of the American Legion.——Dr. John A. Ferguson, who was temporarily serving as superintendent of the Bushwick Hospital, has resigned.——Dr. Lucius A. Salisbury was elected a vice president of the Association of National Guard Officers of the state of New York, at the annual convention at Syracuse, February 5-6.

NORTH CAROLINA

Hospital News.—A well equipped fifteen-bed hospital has been opened on the third floor of the First National Bank building, Thomasville, which will care for general medical and surgical cases. The hospital will function on the open staff plan.——The Mission Hospital, Asheville, announces a proposal to take care of the indigent of the city at $3.50 per patient daily, $5 for major operation service, $3 for minor operation service, and roentgen-ray service at actual cost. The hospital heretofore has cared for the indigent in large part for $350 a month, and has incurred a loss.——In the campaign to establish a negro hospital at Greensboro, Mrs. L. R. Richardson gave $50,000, and an unknown person $10,000; citizens agreed to raise $25,000. A committee of leading physicians is also actively engaged in the campaign.——The new $150,000 Davis Hospital at Statesville, having a capacity of fifty beds, has been completed; Dr. Calvert R. Toy is the house physician, and Dr. James W. Davis, the surgeon.——Dr. Arthur T. Pritchard has been elected president of the board of directors of the French Broad Hospital, Asheville.——Dr. Watson S. Rankin, Charlotte, director of the Hospital Section of the Duke Foundation, addressed the Tri-County Medical Society (Pasquotank, Perquimans and Chowan) at Hertford, January 26, on "The Need for Public Hospitals."

OHIO

Society News.—Dr. Foster Kennedy, New York, addressed the Columbus Academy of Medicine, recently, on "The Symptomatology and Diagnosis of Extending Lesions of the Brain."——Dr. Haven Emerson, New York, addressed the Academy of Medicine of Cleveland, February 19, on "Periodic Health Examinations."——Dr. Lurty N. Harris, Wheeling, W. Va., addressed the Belmont County Medical Society at Bellaire on "Periodic Examination of the Apparently Healthy Individual." Dr. Harry E. Kleinschmidt, chief, bureau of public health education, state department of health, addressed the Coshocton County Medical Society, recently, on "Health Education."

Increase in Death Rate.—Assuming that the December record was normal, the death rate in Ohio for 1925, according to *Ohio Health News*, was 11.6 per thousand population, a slight increase over 1924, which was 11.2; in the first six months of 1925 there was a marked increase in the number of deaths from scarlet fever, influenza, heart disease, lobar pneumonia, automobile accidents, homicides and exophthalmic goiter; most of the increase over 1924, however, was in the last six months; there was a decrease in the first six months in the deaths from diphtheria, measles, whooping cough, tuberculosis and cancer. The total death records amount to more than 73,400, which total has been surpassed only by those of 1920 and 1923 since the great epidemic of 1918.

OREGON

Personal.—Dr. Charles J. Smith, Portland, has been appointed a member of the state industrial welfare commission for three years.——Dr. Everett Mingus has been elected president of the medical staff of Wesley Hospital.——Dr. John B. Dinsmore has been appointed health officer of Washington County to succeed Dr. Leon W. Hyde, resigned.

Pollution of Willamette River.—Portland and six cities up the river pour sewage into the waters of the Willamette, and the point of saturation for sewage discharge has almost been reached. At a meeting of the League of Oregon Cities in January, a representative of the U. S. Public Health Service stated that decisive action in planning to handle the great flow of sewage into these streams must be taken to protect life. The state health officer is reported to have said that the waters of the Willamette are unfit for bathing, and that almost two thirds of the population of Oregon is sending sewage into that stream. The city engineers of the Willamette Valley conferred with the representative of the Public Health Service regarding stream pollution; about twenty-five cities were officially represented at this meeting.

PENNSYLVANIA

Prize for Case Report.—The Allegheny County Medical Society is offering a prize of $25 for the best case report submitted by an intern of any hospital in Allegheny County which has been approved for internship by the American Medical Association. The report shall be of a case that has been under the care of the intern reporting, and shall not exceed 800 words. Nothing on the manuscript should indicate the identity of the writer and manuscripts should be mailed to the Secretary, Allegheny County Medical Society, Jenkins Arcade, Pittsburgh, marked for "Case Report Contest," prior to May 1. The judges will be appointed by the president of the Allegheny County Medical Society.

Philadelphia

Society News.—The Philadelphia County Medical Society held a symposium on pneumonia, February 10, in which, among other speakers, were Drs. Russell L. Cecil and William Benham Snow, both of New York, and Drs. S. Solis Cohen and William E. Robertson; there was a lantern slide demonstration.——The Philadelphia Academy of Surgery and the New York Surgical Society held a joint meeting, February

10, at the Jefferson Hospital; the program included, among others, Dr. Charles H. Frazier: "Review of Results of Nerve Anastomosis in Treatment of Recurrent Laryngeal Paralysis"; Dr. John B. Deaver: "Fecal Fistula," and Dr. John Chalmers Da Costa.——At the February meeting of the Pathological Society, Philadelphia, Malcolm J. Harkins, and Drs. Jay F. Schamberg and John A. Kolmer spoke on "An Investigation of Gye's Work on the Etiology of Malignant Tumors."——The clinical conference form of program was inaugurated by the South Branch of the Philadelphia County Medical Society in the Methodist-Episcopal Hospital, January 22; Dr. James M. Anders discussed "The Etiology, Symptoms and Diagnosis of Pyelitis"; Drs. Elmer Paul Reiff, Leon Herman and William R. Nicholson presented illustrative case reports; Dr. Russell A. Richardson gave the laboratory findings of pyelitis, and Dr. Milton F. Percival, the roentgen-ray studies; then there was a general discussion on treatment. These meetings will be held on alternate months at this hospital and the St. Agnes Hospital, and members of staffs of other hospitals are invited.

WEST VIRGINIA

Fourteen Physicians Resign.—Fourteen members of the staff of the Children's Hospital, Huntington, tendered their resignations to the chairman of the board of directors, January 6, it is reported. The letter of resignation was signed by Drs. William Byrd Hunter, John C. Matthews, Ray M. Bobbitt, Rudolph H. Ruedemann, Alexander R. MacKenzie, Festus O. Marple, Frank C. Hodges, Charles G. Willis, Oscar B. Biern, Thomas W. Moore, Charles M. Hawes, Walter C. Vest, George M. Lyon and Walter N. Rowley.

State Society Statement.—In view of sporadic cases of smallpox and other small outbreaks in the north central part of the state, the West Virginia State Medical Association has issued a statement, it is reported, to inform the public that the mild type of smallpox now prevalent may at any time change to a malignant form; it is pointed out that the only way known to prevent further outbreaks with possible loss of life is for the people, generally, to become vaccinated. Some schools in the state are said to have been closed, recently, on account of the presence of smallpox.

Personal.—Dr. Roy Ray, Clendenin, tendered his resignation as head of the full-time county health unit that will begin operations in Kanawha, April 1, it is reported.——Dr. Thomas W. Moore, Huntington, has been elected president of the new Tri-State Medical Association (West Virginia, Ohio and Kentucky); Dr. Oscar B. Biern, vice president, and Dr. Festus O. Marple, secretary-treasurer.——Dr. Lewis V. Guthrie, Huntington, was recently reappointed for the sixth consecutive four-year term, as superintendent of the Huntington State Hospital. At the same time, the governor announced the reappointment of Dr. Albert G. Rutherford as superintendent of State Hospital no. 1, Welch.

WISCONSIN

Society News.—The Milwaukee (Passavant) Hospital interns have organized recently, and will meet the second Monday of each month in the evening, for scientific discussions, to which former interns and members of the staff are cordially invited.——Dr. Harry Gideon Wells, professor of pathology, University of Chicago, will address the Medical Society of Milwaukee County, April 9, on "The Influence of Heredity on the Occurrence of Cancer"; the February 12 meeting was devoted to reviews of the recent advances in the basic sciences bearing on clinical medicine, which were discussed by the full-time professors of Marquette University Medical School.——Members of the Milwaukee Academy of Medicine have subscribed $47,000 toward a bond issue for a new home for the academy; Dr. Ernst Copeland of Milwaukee has offered his interests in the Chandler Building to the academy of medicine with the understanding that, should the academy ever dissolve, the interests would be presented to the Wisconsin State Medical Society; after March 1 the library and reading rooms, as well as the meetings of the academy of medicine, will be in their "permanent new home in the Oneida Building," 153 Oneida Street. Recently Dr. Mynie G. Peterman addressed the academy on "Convulsions of Infancy and Childhood," and Dr. Francis D. Murphy on "Nephrosis."——Dr. Charles J. Coffey has been elected president of the Milwaukee Oto-Ophthalmic Society.——Dr. Louis M. Warfield, Milwaukee, recently addressed the Sheboygan County Medical Society on "The Heart as of Interest to the General Practitioner."——Dr. Paul A. Fox, Beloit, has been elected president of the Physicians and Surgeons Club of that city.——Dr. Jacques E. Forestier, Paris, France, addressed the University of Wisconsin Medical Society, recently, on "Practical Results of Roentgen-Ray Examinations with Injection of Iodized Oil."——The Racine County Medical Society will receive $50 annually in perpetuity as a bequest of the late Dr. Walter S. Haven, Racine.

GENERAL

Warning.—Mr. R. S. Dayton is not authorized to solicit subscriptions or collect for the American Medical Association. Our accredited agents carry credentials bearing an expiration date and the signature of Dr. Olin West, secretary and general manager of the Association.

Anti Bill.—The antivivisectionists have again brought forward the bill "to prohibit experiments on live dogs in the District of Columbia." This measure was introduced by Senator Fletcher of Florida, February 1. Experiments and operations on living dogs in the District of Columbia would be a misdemeanor by the terms of the bill.

Foreign Dental Delegates.—A joint resolution has been introduced by Senator Shipstead of Minnesota authorizing the president to invite foreign governments to appoint delegates to participate in the Seventh International Dental Congress, to be held at Philadelphia, August 23 to 28, under the auspices of the International Dental Federation.

Millions to Fight Tuberculosis.—Dr. Lindsy R. Williams, New York, director of the National Tuberculosis Association, announced, February 12, that the recent sale of Christmas seals totaled $4,750,000. The antituberculosis campaign this year will emphasize closer cooperation between voluntary tuberculosis agencies and official agencies. The annual business meeting of the state secretaries, at which this announcement was made, was held in Chicago.

Physical Examination Manual in French.—Dr. René Sand, secretary general of the League of Red Cross Societies, Paris, France, has translated into French the manual published by the American Medical Association for the conduct of periodic examinations of apparently healthy persons. Any French speaking physicians or others who desire a copy of the manual in French can procure it by writing either to Dr. Sand at 2 Avenue Velasquez (Parc Monceau), Paris (VIII), France, or to the headquarters of the American Medical Association.

Death of Mr. Bausch.—John Jacob Bausch, founder and president of the Bausch and Lomb Optical Company, died at his home in Rochester, N. Y., February 14, aged 95. Mr. Bausch came to this country when 19 years of age and first sold lenses for eye-glasses in 1853, when his store was a portion of a shoemaker's shop. The first building on the site of the present factory in Rochester was completed in 1874. The business then branched out into many lines of the optical field. Mr. Bausch held various positions of trust in his community. He was formerly president of the Rochester General Hospital, and at the time of his death was honorary vice president of that institution.

Report on Type Culture Collection.—The annual report of the committee in charge of the American Type Culture Collection shows that the available cultures have increased from 175 to 722 during the period Feb. 1 to Dec. 15, 1925, including sixty-nine molds and 122 yeasts. In all, 360 orders have been filled, involving the sending of 1,540 cultures to 240 persons and institutions. The committee has established a price of one dollar per culture, with addition for packing and postage. A temporary list of cultures is available. A printed catalogue is planned for the near future. Communications should be sent to the American Type Culture Collection, John McCormick Institute for Infectious Diseases, 637 South Wood Street, Chicago.

Congress Reduces Narcotic Tax.—The Federal Tax Reduction Bill, which passed the senate, February 12, carried the provision heretofore passed by the House of Representatives reducing from $3 to $1 the annual registration fee charged to physicians under the Harrison Narcotic Law. There was no debate on this particular amendment in any of the protracted discussions of taxation in the senate proceedings. The arguments and reasons for the reduction of this tax were originally presented to the House Ways and Means Committee by Dr. Charles W. Richardson, Washington, D. C., and Dr. William C. Woodward, Chicago, both representing the American Medical Association. The adoption of this amendment marks the end of a long struggle on the part of physicians to have this tax restored to the prewar rate. Congress has now recognized the claim of the medical profession with reference to this tax and has repealed the war tax rate as a part of the administration program for the reduction of federal taxes.

New County Society Presidents.—The following physicians have recently been elected president of the county medical society indicated:

Dr. Henry Albert, Reno, Nev., Washoe County Medical Society.
Dr. Haney A. Angus, Lawton, Okla., Comanche County Medical Society.
Dr. Henry J. Ault, Dalton, Ga., Whitfield County Medical Society.
Dr. Ernest B. Baker, Gatesville, Texas, Coryell Medical Society.
Dr. Clyde J. Barker, Kaw, Okla., Kay County Medical Society.
Dr. Channing E. Dakin, Mason City, Iowa, Cerro Gordo County Medical Society.
Dr. Ralph L. Daniels, New Bern, N. C., Craven County Medical Society.
Dr. Wallace W. Dill, Norristown, Pa., Montgomery County Medical Society.
Dr. Frederick E. Franchere, Sioux City, Iowa, Woodbury County Medical Society.
Dr. Edward M. Gans, Judith Gap, Mont., Fergus County Medical Society.
Dr. Charles S. Hale, Cisco, Texas, Eastland Medical Society.
Dr. Herbert Henkel, Springfield, Ill., Sangamon County Medical Society.
Dr. John L. Holland, Madill, Okla., Marshall County Medical Society.
Dr. Harry C. Johnson, Antlers, Okla., Pushmataha County Medical Society.
Dr. George M. Landrock, Mill Valley, Calif., Marin County Medical Society.
Dr. Ream S. Leachman, Vallejo, Calif., Solano County Medical Society.
Dr. Frederick K. Lenfestey, Mount Clemens, Mich., Macomb County Medical Society.
Dr. Bessie S. Martell, Santa Ana, Calif., Orange County Medical Society.
Dr. James T. Matthews, Wathena, Kan., Doniphan County Medical Society.
Dr. Jesse L. McCracken, Smithfield, Pa., Fayette County Medical Society.
Dr. Keith S. McKee, Bakersfield, Calif., Kern County Medical Society.
Dr. Nathaniel J. Pickett, Milford, Texas, Ellis County Medical Society.
Dr. Fred G. Priestley, Frederick, Okla., Tillman County Medical Society.
Dr. Orville H. Richer, Warsaw, Ind., Kosciusko County Medical Society.
Dr. Andrew C. Roche, Calumet, Mich., Houghton County Medical Society.
Dr. John A. Russell, Auburn, Calif., Placer County Medical Society.
Dr. Howell A. Scott, Muskogee, Okla., Muskogee County Medical Society.
Dr. Taylor W. Scott, Stafford, Kan., Stafford County Medical Society.
Dr. Louis Severin, Bluffton, Ind., Wells County Medical Society.
Dr. Thomas M. Shaffer, New Castle, Pa., Lawrence County Medical Society.
Dr. Harry W. Stout, Wenonah, N. J., Gloucester County Medical Society.
Dr. Joseph A. Striebich, Moundsville, W. Va., Marshall County Medical Society.
Dr. Seymour D. Van Meter, Denver, Denver City and County Medical Society.
Dr. James R. Vermillion, Princeton, W. Va., Mercer County Medical Society.
Dr. Oscar M. Weaver, Lewistown, Pa., Mifflin County Medical Society.
Dr. John T. Wharton, Sulphur, Okla., Murray County Medical Society.
Dr. Howard M. Wheeler, Helena, Okla., Alfalfa County Medical Society.
Dr. Daphney E. White, El Dorado, Ark., Union County Medical Society.
Dr. Edgar J. Widby, Wenatchee, Wash., Chelan County Medical Society.
Dr. Archie E. Wilkins, Covington, Okla., Garfield County Medical Society.
Dr. Albert Woldert, Tyler, Texas, Smith County Medical Society.
Dr. Walter C. Woodward, Seattle, Wash., King County Medical Society.

News of Epidemics.—The whole northeastern part of the state of Ohio has a high incidence of measles, the greatest center of infection being Cleveland, where there were said to be, January 24, 1,952 cases. The state department of health announced that there were 10,000 cases in the state, and that in December the number was only 4,640.——The Union City High School, Union City, Pa., was closed, January 5, on account of an outbreak of diphtheria.——About 150 houses in Norristown, Pa., were under quarantine, January 21, on account of measles.——Many homes of Clarksville, Tenn., are said to have been quarantined recently on account of scarlet fever, the public schools have been closed and public meetings prohibited.——Dr. John J. Lentz, health officer of Davidson County, Tenn., reported, January 22, that 510 cases of measles had recently been reported, and that among them there had been six deaths.——The Spring Hill School near Sebastopol, Calif., was recently closed on account of an outbreak of scarlet fever, and the Eagle and Waugh schools near Penngrove, Calif., were recently reported closed on account of an outbreak of mild influenza.——An outbreak of influenza occurred at Powers, Ore., during the last week in January, and is said to have incapacitated about half the population.——The smallpox outbreak that has prevailed recently in Tampa, Miami and Jacksonville, Fla., has spread to West Palm Beach, where fourteen cases were reported during the first four days of February. Sanitary inspectors are making a house to house inspection to discover new cases. At that time most of the school children had been vaccinated.——The Mayfield (Ky.) *Messenger* stated, February 3, that there were hundreds of cases of mild influenza in the county and city of Mayfield.——The commissioner of health of Baltimore reported 129 cases of influenza with five deaths for the twenty-four hour period ending 10 a. m., February 5.——An epidemic of German measles has existed in Albany, N. Y., for more than two months; there have been more than a thousand cases, and about that number of school children were being kept out of school, January 29, by the epidemic.——Beginning February 15, all persons connected with the University of Illinois at Urbana, including students, professors, instructors and others who have not had smallpox or have not been vaccinated recently, were excluded from doing any work about the university, or attending classes for twenty days, on account of the menacing smallpox situation in the towns of Urbana and Champaign.——The schools at Lagro, Ind., were closed, February 2, to permit the vaccination of pupils who had been exposed to smallpox in the town where three families were under quarantine. The schools reopened the next day.

FOREIGN

Yellow Fever.—The December epidemiologic report of the League of Nations shows that the only cases of yellow fever reported last fall were a total of eight in the Gold Coast, Nigeria and Upper Senegal; there were five deaths among these patients. Yellow fever has not occurred in Peru, South America, it is said, since 1922.

Charcot Prize Endowed.—The Société de neurologie at Paris announces that the surplus left after the celebration of the Charcot centennial last June has been invested to endow a triennial prize of 4,000 francs. It is not open to competition. The society will select the beneficiary and give him a topic for research, clinical, anatomic or experimental, in the domain of neurology, on which he will report in three years at the latest.

Meeting of Committee of League of Nations.—The "Comité d'hygiène," which met at the Hague, January 4-7, discussed smallpox, alastrim and vaccine; it was decided to make a series of investigations as to whether alastrim is a distinct disease, and to investigate the question of preparing vaccine as far as possible in accordance with fixed regulations and its distribution accordingly. All health organizations will be requested to cooperate in order to compare results. The committee consisted of:

Prof. Ricardo Jorge (Portugal), chairman; Prof. T. Madsen (Denmark); Sir George Buchanan (Great Britain); Dr. H. Carrière (Switzerland); Dr. N. M. Josephus Jitta (Netherlands).

Experts: Drs. Gordon and Blazall (England); Professor Gins (Germany); Professor Sobernheim (Switzerland); Dr. Levaditi (Pasteur Institute, Paris); Dr. Terburgh, chief inspector of public health (Netherlands); Dr. Bijl, bacteriologist at the central laboratory for public health (Netherlands), and Dr. van Bouwdijk Bastiaanse, nerve specialist (Netherlands).

Deaths in Other Countries

Dr. K. A. Herzfeld, Vienna, chief of the Jubilee hospital and privatdozent.——**Dr. S. Patellani**, professor of social eugenics at Milan and writer on gynecology.——**Dr. A. Figlia**, professor of pediatrics at Sassari.——**Dr. C. Pellizzari**, emeritus professor of skin diseases, Florence, aged 74.——**Dr. A. Mackenrodt**, Berlin, who introduced several methods in operative gynecology, aged 67.——**Dr. Schütz**, Berlin, formerly professor of orthopedics, aged 71.——**Major R. Coppin**, retired, for many years physician to the shah of Persia.——**Dr. Chatin**, professor of infant hygiene, Lyons, aged 61.——**Dr. M. Bilhaut**, Paris, founder of the International hospital and of the Syndicat de la presse scientifique, aged 78.——**Dr. John Basil Hall**, immediate past president of the British Medical Association and consulting surgeon to the Bradford Royal Infirmary, January 12; Dr. Hall was the official delegate of the British Medical Association to the last annual session of the American Medical Association, Atlantic City, N. J.——**Dr. Maygrier**, professor of obstetrics, Paris.——**Dr. Arvid Norgren**, Fränsta, Sweden, one of the three founders of the *Hygienisk Revy* in 1912.——**Dr. A. Passow**, professor of otorhinolaryngology, Berlin, succumbed to acute occlusion of mesenteric vessels, aged 66. He was on a professional trip to Doorn in Holland.——**Dr. Polyak**, privatdozent of rhinolaryngology, Budapest, aged 60.——**Dr. E. Rosenberg**, Munich, emeritus professor of anatomy at Utrecht, aged 83.——**Dr. A. Morelle**, professor of dermatology, Louvain, member of the national public health council.——**Dr. Camillo Golgi**, emeritus professor of pathology at Pavia, and senator, died recently at Rome, aged 82. He was the originator of the silver staining method for nerve tissue, and was the discoverer of the cells, corpuscles, etc., that bear his name. He shared with Ramón y Cajal the Nobel prize in medicine in 1906.——**Dr. J. B. de Landeta**, Havana, dean of the profession in Cuba, aged 87.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Jan. 22, 1926.

The Sterilization of the Mentally Defective

In a letter to the *Times,* a number of leaders of the profession, including Sir William Arbuthnot Lane, Sir James Dundas-Grant, Sir Thomas Horder, Sir James Purves-Stewart and Sir John Thomson-Walker, advocate sterilization of the mentally deficient. According to the last annual reports, there are in Great Britain more than 201,000 mentally affected persons. Of these, more than 51,000 are congenitally mentally defective, for many hundreds of whom no vacancies in existing institutions are available. In addition, there are many mentally deficient persons who are taken care of by relatives or friends, so that the figures given are by no means comprehensive. In the vast majority of cases, heredity is the cause of mental deficiency. The signatories feel that the time has more than arrived when something definite in the way of treatment should be undertaken to lessen the number of mentally deficient children, and that the means is in the power of the profession if supported by legislation. They consider it to be the duty of the medical profession to impress on the public the immense importance of hereditary tendencies in dealing with mental defectives. The "fundamentals of the mind" are begotten with the body, and predetermine character and conduct. The offspring of mental defectives are themselves mostly mentally deficient. Because the general public has never fully realized the enormous influence of heredity, the question of the thoroughly efficient treatment of the mentally deficient has not long been ventilated. The experience of institutions for the feebleminded is that, with rare exceptions, such persons remain as they are, no matter what is done for them. Since this is the case, and there is really no hope for general improvement, in the interests of those affected, as well as of the state, all these persons should be prevented from propagating their species. It is said by some that segregation alone would be all that is necessary, but it is impossible to segregate all mental defectives. But the signatories hold that the only means of preventing propagation is by sterilization—"a very simple operation which, while preventing reproduction, in no way interferes with the ordinary habits of life." In a considerable proportion of cases it would obviate the necessity for institutional treatment of either sex. A serious aspect of this question is the annual burden on the taxpayer for keeping up institutions for the mentally defective, which must necessarily continue and grow unless something more radical in the way of prevention is undertaken. The signatories consider that everything possible should be done to render the lives of these mental defectives as happy as possible under the circumstances, but that with our present birth rate, our excessive taxation, and the number of unemployed, sentiment and ignorance should not be allowed to interfere with a means of treatment by which the capacity to produce an imbecile progeny would be arrested.

A counterblast to this letter appears in the *Times* over the signatures of the chief officers of the Central Association for Mental Welfare (including the leading medical expert, Dr. Tredgold), the principal nonofficial body in the country dealing with defectives. During the last ten years, 34,000 cases of mental abnormality have been referred to its central office and local associations. Its central council is composed of representatives nominated by practically all the official bodies and societies in the country engaged in work among mental defectives with medical specialists of recognized standing in this subject. The question of sterilization was considered fully and carefully some time ago by the medical committee and council of the association, the most representative body of medical and lay men and women in this country, having a wide practical experience with mental defectives. They were fully cognizant of the cost of institutional treatment and the urgent necessity for economy; they were even more alive to the necessity of preventing the propagation of offspring by defectives. Nevertheless, they unanimously arrive at the conclusion that while sterilization might be appropriate for certain particular cases, it would have little effect in the prevention of mental deficiency, it would certainly lead to serious social evils, and it would be inimical to defectives and to the community were it to be adopted as a general policy. The grounds on which these conclusions are based are as follows: 1. The preventive effect of a general policy of sterilization would be very slight. Although the majority of cases of mental defect are the result of inheritance, the proportion of subjects who are the offspring of actually defective parents is extremely small. It follows that if every defective in existence a generation ago had been sterilized, the number of defectives today would not have been appreciably diminished; also, that if every defective now existing were to be sterilized, the result a generation hence would be insignificant. 2. A general policy of sterilization would be attended with serious social evils. There is no point in sterilization unless it is to be accompanied by the freedom of thousands of defective males and females, who are now cared for in institutions, where they are generally happy and usefully employed. Such freedom would inevitably mean a return to the disastrous conditions that existed before the passing of the mental deficiency act of 1913. Under these conditions, thousands of feebleminded persons led a harried existence between workhouse, refuge, prison and the street. Moreover, promiscuous sexual intercourse was very common, and the feebleminded were a great center for the spread of venereal disease. The association is convinced that the presence in the community of thousands of feebleminded girls and women known to be sterilized, and therefore incapable of becoming pregnant, would increase such promiscuous intercourse and venereal diseases.

This is rather a pretty quarrel between the most prominent leaders of the medical profession and those who can speak with unique authority on the subject of mental deficiency. The latter seem to have had the best of the controversy so far. But even if the value of sterilization were unquestioned, public opinion in this country would find such a measure too revolting to consent to its adoption.

The Irish Free State and the Medical Register

The disastrous effects to the Irish medical schools likely to be produced by the proposed separate medical register have been pointed out in previous letters. Evidently the difficulties are being felt by the Free State government, for legislation is about to be introduced into the dail to extend the existing arrangement for a further period of six months. This news has been received with much satisfaction by all classes in Ireland. The decision of the government to set up a separate register, inspired by nationalist sentiment, was one of its greatest blunders. Even among its stanchest supporters hardly anybody can be found to support its action, and it is generally hoped that, now that a further breathing space has been secured, the last has been heard of the proposal to isolate Irish physicians from the rest of the empire.

The British Medical Association and the Colonial Service

The British Medical Association has taken the extreme step of warning physicians not to apply for any appointment under the colonial medical services made in England. This decision is based on the view that regulations for the East

African medical service, which have recently been published, involve a breach of faith by the colonial office with officers at present serving in East Africa. The council of the association is accordingly of the opinion that members of the colonial medical services can no longer place any confidence in the fulfilment of the terms on which they were appointed. The committee holds that the new East African regulations impose on certain members of the medical service two conditions quite outside the original terms of their appointment. The first is a liability to transfer from one East African dependency to another. The second is a liability to the curtailment of their present opportunities for private practice. The regulations impose a liability to transfer on all members of the service, without any discrimination in favor of officers who were expressly and exclusively appointed to a particular dependency. Whatever the official intention may be, three months' correspondence with the colonial office has failed to secure any explicit guarantee that the right of these officers to refuse transfer will be respected. The power of governors, in consultation with their medical and sanitary advisers, to debar medical officers from private practice in districts where the needs of the community can be served by independent private physicians is, as far as East Africa is concerned, conferred for the first time by the new regulations. It can be, and has already been, used to cut off this source of income in particular districts where it is of substantial value. The existence of opportunities for private practice has been held out in unequivocal terms as one of the attractions of the service. The statement that private practice was allowed has hitherto been embodied not only in the official pamphlet for the information of candidates, but also in actual advertisements of vacancies. Further, official correspondence repeatedly refers to this source of income as one of the factors considered in determining the rate of service emoluments, and one of the advantages of a service in which these rates compare most unfavorably with those sanctioned for West Africa.

Death of John Gray McKendrick

The death of John Gray McKendrick, emeritus professor of physiology in the University of Glasgow, is announced. Born at Aberdeen in 1841, he received his education there, and graduated M.D. in 1864. His original intention was to engage in general practice, but while acting as surgeon in a hospital at Fort William he met Hughes Bennett, at that time professor of physiology in the University of Edinburgh, who offered him an assistantship, which he accepted. He soon gained a great reputation as a teacher. For some time also he acted as a lecturer on the institutes of medicine in the Extra-Academical School at Edinburgh. In 1876, on the death of Prof. Andrew Buchanan, he was elected to the chair of physiology in the University of Glasgow, which he held for thirty years. He quickly attained a great reputation both as a teacher and as a physiologic observer. In 1878 he published the "Outlines of Physiology," and in 1888 he produced the "Textbook of Physiology," both of which were very successful. In 1879 he published his lectures on the history of physiology, and in 1892 "Life and Motion," a contribution to the relations subsisting between nerve and muscle. He contributed many physiologic papers to periodical literature, especially to the transactions and proceedings of the Royal Societies of London and Edinburgh. Among the most valuable were papers on physiologic acoustics and experimental phonetics. Other works of considerable literary merit were a life of Helmholtz, which he produced in 1899, the Boyle lecture on hearing, delivered at Oxford in 1899, "Science and Faith," also produced in 1899, and "Christianity and the Sick," which appeared in 1901. In conjunction with the late Sir James Dewar, he showed that light produced electrical changes in the retina. He was also one of the first workers on the relation of chemical constitution to physiologic action. Following Carl Ludwig, he was one of the earliest in this country to use graphic methods in recording physiologic observations, especially in showing the relations between nerve and muscle, one of his most important researches.

A Martyr to the Roentgen Ray

The death of Mr. Reginald G. Blackall (already reported in THE JOURNAL, January 2, p. 48) removes the last of the three lay pioneers of roentgen-ray work at the London Hospital, Messrs. Harnack and Wilson, the two colleagues with whom he first worked, having died before him.

A New Vitamin

The report of the Medical Research Council, just published, contains much on research with regard to vitamins. A new vitamin has been added to the trio A, B and C. Vitamin D is known as the "antirachitic factor," and was, until its isolation, included in the properties of vitamin A, which may thus, in a sense, be regarded as its progenitor. The pure vitamin A appears to give a color reaction with certain chemicals; vitamin D does not, nor do the substances developed in various bodies after exposure to ultraviolet light. It may be inferred that vitamin D, and not vitamin A, is the "bottled sunshine" of which so much has recently been heard. However, it is unwise to be dogmatic where these "exquisite mysteries" are concerned. Meanwhile it can be said that the use of "light baths," given under proper conditions, appears to be fully justified as a tonic and therapeutic measure. The "sunlight work," in other words, stands. Indeed, the plan of exposing milk to ultraviolet rays, in order to increase its nourishing qualities, is proving highly successful.

BUENOS AIRES

(From Our Regular Correspondent)

Dec. 28, 1925.

Nurses

There has been of late a tendency to improve the status of nurses. Several training schools have already been established, such as those maintained by the Public Assistance Service, the Argentine Red Cross Society, the Institute of Cancer, the Parmenio Piñero Hospital and the British Hospital. There is already a large number of nurses, but not all are properly trained. Nurses from abroad would be taking chances in coming here, as the different language and customs and perhaps smaller salaries might be a source of disappointment. Before coming, they should have a definite understanding with the Public Assistance authorities or some hospital, sanatorium or physician. A competent person might make a way for herself, but there is plenty of competition in a city with a two million population.

Foreign Professors

The directing board of the Rosario Medical School has engaged Prof. G. Viale of Sassari, Italy, to fill the vacant chair of physiology. Much comment has been aroused by the fact that a number of competent local men were passed over in filling this position. However, a number of people still hold to the idea that anything European must be perforce better than the local product.

Professor Nicolle of Tunis made a study of leishmaniasis in the north of Argentina just before his return to France.

Meeting of the Argentine Medical Association

The Argentine Medical Association held in November its fourth congress on internal medicine. The subjects for discussion were: insulin and the hypoglycemic syndrome, Drs. P. Escudero and M. Hiriart; general diseases originating in the tonsils, Dr. F. Segura; cholecystography, Dr. F. Lanari; parathyroid medication, Dr. B. A. Houssay; and rickets and ultraviolet rays, Dr. Macera.

Conference on Microbiology and Medical Teaching

The fourth conference on hygiene, microbiology and pathology and the second congress on medical teaching will be held simultaneously in 1926. Prof. G. Aráoz Alfaro is at the head of the organizing committee, and a number of subcommittees have been appointed already both here and abroad. Dr. D. Cranwell, dean of the Buenos Aires Medical School, will preside at the meeting on medical education.

Internship

The public assistance has requested the Buenos Aires Medical School authorities to issue rules governing the appointment of medical students to the 281 vacancies now existing among *practicantes* (assistants) in local hospitals.

Medical School Board

The new directing board of the Buenos Aires Medical School includes Drs. M. R. Castex, M. Acuña, L. Tamini, D. Speroni, P. Corti, P. de Elizalde, representing the professors, and Drs. P. Usolenghi and O. Ivanissevich, on behalf of the students.

Biologic Society

The Argentine Biological Society has appointed these officers: Prof. J. Lambías, president (1926-1927); C. Pico, vice president, and N. Laclau, member.

Honors for Argentine Physicians

The Madrid Academy of Medicine has appointed as corresponding members Drs. E. Segura, B. A. Houssay, P. Belou and F. Arrillaga, all professors in the Buenos Aires Medical School.——The Medico-Physical Academy of Florence has appointed Prof. G. Aráoz Alfaro a corresponding member.——The gold medal of the Hamburg school has been granted to Drs. M. R. Castex and G. Aráoz Alfaro of Buenos Aires.

The Argentine Academy of Medicine has appointed as corresponding members Drs. P. Duval and L. Bernard of Paris, and P. del Río Hortega of Madrid.

NETHERLANDS

(From Our Regular Correspondent)

Dec. 31, 1925.

The Central Laboratory of Utrecht

The central laboratory of Utrecht has published an annual report covering its activities for 1924. Material of scientific value includes the fact that Van der Hoeden has reached the conclusion that the flocculation test of Dalla Volta and Benedetti for the diagnosis of syphilis has by no means the same value as the Wassermann or the Sachs-Georgi test. For tuberculosis, however, Van der Hoeden favors the antigen test of Besredka rather than that of Wassermann. More than 50,000 bacteriologic examinations for tuberculosis and typhoid fever were made in the laboratory. In one instance, bacilli of leprosy were discovered in a specimen of buccal granulations. One interesting research was on certain metallic elements or minute particles of glass used by cake bakers to adorn their goods. These particles produced intestinal hemorrhages in animals. Their use should, therefore, be prohibited.

Choice of Specialist

Some maintain that a specialist should not treat patients without collaborating with the attending physician. Others believe that the patient has a perfect right to consult any physician he chooses. The family physician may possess information that would be valuable to a specialist seeing the patient for the first time; but the question arises whether we may speak of veritable family physicians, in view of modern living conditions. In any event, in civilian practice it seems difficult to regulate the question. In the *Krankenkasse* practice it is altogether different. The fact that a patient has been seen by his physician before consulting a specialist constitutes a method of control and also an additional guarantee of the character of the medical care.

Meeting of Pediatricians

The Nederlandsch Vereeniging voor Kindergeneeskunde and the Société de pédiatrie of Paris recently held joint meetings at Amsterdam and Leyden. The communications by Lesné, Rohmer, Woringer and Mlle. de Geus on the subject of spasmophilia were particularly noteworthy. Another subject comprehensively treated was the influence of heliotherapy on infants and the action of ultraviolet rays on hypertrophy and asthma (Schreiber, Mouriquand, Armand Delille and Nobécourt).

Instruction of the Masses in Hygiene

An experiment is being tried in the Netherlands for the instruction of the masses in the principles of public health. A committee composed of specialists and representatives of the hygienic societies has induced the managing editors of 165 journals to insert in their columns regularly, free of charge, short articles on public health, including information on prophylactic measures to be taken under given conditions. The federal council on public health has accepted the task of directing this new public health campaign and of distributing among the journals the opinions that it receives from specialists and various societies. These are some of the subjects treated thus far: quackery, prenuptial medical examinations, prenatal care, dental hygiene, accidents from lightning, traffic regulations. This method of public instruction makes it possible to reach a vast body of readers and the results have been excellent.

Collaboration Between Ophthalmologists and Opticians

After numerous discussions between ophthalmologists and opticians, a modus vivendi between them seems to have been reached. The opticians have agreed not to make refractions or to supply any person with spectacles unless he positively refuses to consult a physician. They will refrain from recommending such and such an ophthalmologist to any person who asks him for such a recommendation. However, they may hand to the inquirer a list of ophthalmologists belonging to the local society. They will likewise avoid entering into any commercial relations with ophthalmologists. The ophthalmologists agree also not to recommend any particular optician or to endeavor to influence the patient in the choice of a supply house.

New Dermatologic Clinic in Groningen

A new dermatologic clinic has been opened at the University of Groningen, Professor Van den Valk being the newly appointed head.

Value of Roentgenography in Gastric Ulcer

At a recent meeting of the society of gastro-enterology, papers were presented by Heilbron, Schalij and Schoemaker on the subject of the relative value of clinical and roentgenologic examinations in the diagnosis of gastric ulcer. It may be concluded that there are few trustworthy signs of gastric and duodenal ulcers. In general, clinical examination should take precedence over all other methods. In this connection, the words of Basil Hall are appropriate: "Radiography and all the other modern scientific methods are good servants but bad masters."

Rat Extermination

Considerable discussion has taken place at The Hague of late as to the best method of exterminating rats. The campaign of rat extermination was undertaken by certain communal services without the knowledge of the department of public health. The use of rat poisons led to the poisoning of a child, and it was following this accident that the public press took up the question. The results of this campaign have shown that rat extermination undertaken in this fashion is entirely unsatisfactory. Good results can be secured only through the adoption of the American method; namely, construction and management of buildings in such a manner as to protect them absolutely from the invasions of rodents.

International Congress of First Aid to the Injured

In September, 1926, there will be held at Amsterdam the Third International Congress of Rescuing and First Aid to the Injured. The previous congress was held in Vienna in 1913. Since the Vienna congress, the importance of this branch of organized medicine has been more fully understood, especially with reference to accidents due to new modes of rapid transportation. In addition, there is the organization of first aid in the industries and in the life-saving stations along the seacoast. This program will be divided into several sections, each of which will deal with one or more phases of the subject.

GENEVA

(From Our Regular Correspondent)

Jan. 20, 1926.

The Spahlinger Treatment of Tuberculosis

The *Journal de Genève* has published a dispatch dated London, January 16, which reads: "A foundation has just been formed in England with the object to raise the sum of £100,000 sterling necessary for acquiring the rights to use Spahlinger's treatment for the cure of tuberculosis. Mr. Roscoe Brunner, director of the firm of Brunner, Mond and Company, manufacturing chemists, who made a speech at Manchester on this subject, stated that it would be necessary to first raise £40,000 sterling for the purpose of establishing a laboratory at Geneva."

This news item requires comment. Mr. Spahlinger is not a member of the medical profession, but studied law and afterward worked at the Pasteur Institute at Paris. Some years ago he took an estate in Carange, a suburb of Geneva, and there carried out his work for the cure of tuberculosis with a serum of his own composition. Mr. Spahlinger has had every opportunity to present his treatment to the Medical Society of Geneva, as well as to the Geneva Institute, and to treat patients in the clinics of Geneva. These opportunities he has scorned and has preferred on several occasions to seek financial aid in England.

Not long ago he persuaded the British government to look into his claims and a commission was, we think, sent to Geneva, but nothing came of it. A few years ago an eminent London physician on the staff of the Brompton Hospital for Diseases of the Chest reported that Mr. Spahlinger attempted to cure (that was his claim) with his serum some twenty patients placed at his disposal. In all, failure was complete.

The composition of this antituberculosis serum is unknown.

Venereal Disease

At the general meeting of the Swiss Antivenereal League, Dr. Cornaz reported on his investigations in the Lausanne antivenereal dispensary. During the last six years the Lausanne section of the league by lectures, tracts, the cinema, etc., has been active in teaching the public the dangers of venereal diseases and the importance of proper treatment. The moralist's point of view was respected in the lectures and a point was made of the benefits of continence. Regardless of all this propaganda the number of patients suffering with gonorrhea and syphilis has not decreased, and although syphilis tends to disappear, this is due to modern treatment and above all to neo-arsphenamine.

Gonorrhea at present is probably on the increase, but the patient consults the physician sooner. Dr. Cornaz divided gonorrhea patients into those who consulted a physician within the first eight days of their affection without having been treated elsewhere, and those patients with older cases either untreated or having been empirically treated.

The patients who present themselves early in their disease at the dispensary are on the increase, as the following figures show:

	Years					
	1919	1920	1921	1922	1923	1924
Recent gonorrhea	40%	38%	40%	61%	59%	54%
Gonorrhea of more than two weeks	60%	62%	60%	39%	41%	46%

In 1919, 23 per cent of the patients who came to the dispensary had first been to a pharmacist. This percentage declined to 20, 16, 9 and, in 1924, 7. This decrease is the effect either of propaganda or economy, as the dispensary gives all medicaments gratuitously. About 70 per cent of gonorrheal patients were faithful to treatment in all the years in question.

There is a considerable decrease of syphilis; the hard chancre and contagious lesions are becoming rare. The following figures show the syphilitic patients and the stage of the disease in which the patients sought consultation for the first time:

	Years					
	1919	1920	1921	1922	1923	1924
Primary syphilis	21%	25%	16%	20%	9%	2%
Secondary contagious syphilis	32%	25%	14%	25%	20%	10%
Old tertiary syphilis	12%	14%	47%	17%	45%	35%

The remainder of the cases had been already treated elsewhere.

Of ninety-nine patients with hard chancre, 83 per cent were regularly treated and remained under supervision; the others did not report after the cure of the chancre. Of patients with secondary syphilis, 31 per cent gave up all treatment before the entire course had been given.

Dr. Cornaz came to the following conclusions: 1. Propaganda should insist on the importance of early treatment, and, in syphilis, on the necessity of being treated and watched even when symptoms are not present. 2. Venereal service should be organized throughout rural districts. Gratuitous consultations should be multiplied and medicaments should be furnished to rural physicians for treatment of indigent syphilitic patients.

Dr. Golay of Geneva had been unable to compute complete statistics from the dermatologic polyclinic of Geneva, but offered the following figures: During the last six years, 2,067 cases of syphilis treated at the Contonal Hospital were divided as follows: 675 chancres (322 in the seronegative period, 353 in the seropositive period), and 1,392 secondary syphilis. This amounts to approximately one patient in the primary phase for two in the secondary period. In Professor Oltramare's clinic, of 661 patients with primary sores, 327 were negligent of treatment, approximately 50 per cent. These figures, less favorable than those given by Dr. Cornaz, could be explained by the fact that Dr. Golay's statistics comprised the entire period of the great war, when many patients were at Geneva only temporarily. Consequently, many of those classified as unfaithful to treatment probably continued treatment elsewhere. Dr. Golay showed that, in 1919, 105 chancres were treated, as against twenty-six in 1922. Since 1922, syphilitic contamination has still further decreased. Professor Oltramare pointed out that many patients with secondary syphilis came to the dermatologic polyclinic after having been treated by physicians for a varying length of time and, therefore, the ratio of primary to secondary syphilis in Dr. Golay's statistics did not fully correspond to the reality.

Quinine Monopoly

The monopoly of the quinine market held by the Netherlands government must be broken, according to the health experts of the League of Nations, either by direct action or by the use of a substitute antimalarial drug. To date quinine, as manufactured by Netherlands concerns operating in the Dutch East Indies, is the most effective product against malaria. This quinine is made from cinchona bark produced in Java. Last year approximately 10,600 tons of cinchona bark constituted the world's supply, of which more than nine tenths was grown in the Netherlands colonies. The remainder came from the British colonies, Peru and certain sections of Africa. The cinchona bark of Java produces from 6 to 7 per cent of quinine, while the product from other countries runs around 2 to 5 per cent. Even if the percentage of quinine was as high in the cinchona produced in Peruvian and African localities, the supply would fall far short of the demand. The production of quinine in the Netherlands possessions is controlled by a syndicate of growers and manufacturers, who fix the price on the Amsterdam market. The present price is about 22 florins (roughly $8.80) per kilogram, which investigators find brings a return of at least 36 per cent on the capital invested in plantations and factories. The supply is held at about 10 per cent of the world's demand in order to keep the price stationary. Efforts to persuade the government of the Netherlands to intervene and regulate the actions of the "quinine ring" have brought the information that the quinine interests are acting simply to "stabilize the market," and safeguard the "legitimate rights" of the industry. The health officials of the league are now collecting statistics on whether cinchonine can be made as effective in the treatment of malaria as is quinine. Cinchonine is a combination of all the alkaloids extracted from cinchona bark and can be secured from cinchona trees growing elsewhere than in the East Indies. If cinchonine proves suitable, the monopoly can be broken by cultivating the cinchona tree in all parts of the world where it will grow.

New Uses of Insulin

Insulin is extending its field of usefulness to certain morbid processes other than diabetes. At Strassbourg, insulin has been found useful in the healing of sluggish wounds in patients not diabetic. In varicose ulcers the use of insulin given intramuscularly and in ointment has been found beneficial, two injections of 40 units each being given daily without untoward effects. The local results obtained are interesting. Insulin treatment causes repair of the ulcer, and at the same time there is a distinct change for the better in the integument on the periphery of the ulcer.

BERLIN

(From Our Regular Correspondent)

Jan. 2, 1926.

Hospital Extension in Berlin

Professor Hoffmann, director of the central public health bureau of Berlin, has outlined the problems concerned with the hospital service. Municipal, private and state hospitals are all filled nearly to capacity. Greater Berlin has 21,700 beds in institutions for the sick, including orphan asylums and municipal shelters—more than five beds for each thousand inhabitants. This proportion was adequate in the prewar period, though some cities had six and seven beds per thousand inhabitants. Difficult housing and living conditions, notwithstanding the favorable status of the general health, account for the hospitals of Berlin being nearly always filled to capacity. Surgical and medical adult departments are especially crowded. The Zentral-Bettennachweis is kept informed by telephone of the beds available in the various hospitals, and thus far this central bureau has usually been able to meet demands for hospital accommodations. The difficulties will, however, increase as the population of Berlin continues (mainly as the result of immigration) to grow. Old Berlin had three large general hospitals. However, the suburbs that in recent years have been incorporated in Greater Berlin were not well supplied with hospital accommodations. Recent statistics show that there is an ever increasing number of aged persons seeking admission to hospitals. Jan. 1, 1921, there were 4,620 aged persons sheltered in Berlin and 194 in the province. Jan. 1, 1925, the numbers had increased to 4,804 for Berlin and to 1,303 for the province. Jan. 1, 1930, there will thus be approximately 8,000 invalided persons to provide for. Unfortunately, the accommodations for old people are especially inadequate.

Of equal importance is accommodation in the coming years for the increased number of psychopathic patients. Following the war, owing to bad housing conditions, few psychopaths continued to be cared for at home; furthermore, the reduction of alcoholism was only temporary, and, finally, a number of private institutions closed because of bad financial conditions. Jan. 1, 1921, the number of mentally ill patients in Berlin was 4,921, and in the provincial institutions, 1,718; Jan. 1, 1925, the numbers had increased to 5,616 and 3,662, respectively. Jan. 1, 1930, there will be presumably 11,800 psychopaths. As the beds for psychopaths provided in the province cannot be used by the city to the same extent as formerly, the psychopathic institution in Buch, which, in 1919, was transformed into a children's hospital, will have to be restored to its former use.

Another point taken up at the meeting was more accommodations for tuberculous men. When, a few years ago, the so-called *Heimstätten*, or homes, were discontinued, tuberculous men were sent mainly to private institutions. It was decided, as a first measure, to enlarge bed capacity of the Charlottenburg "Forest Home" (*Waldhaus*) from 300 to 600. In addition, an endeavor will be made to provide other buildings in favorable locations.

Vital Statistics for Germany for the Third Quarter 1924

In the third quarter of 1924, there were 101,004 marriages. As the number of marriages varies with the seasons, it is well to compare this figure with the corresponding one for 1923. This comparison reveals a decrease of 35,663, or 26.1 per cent, in the third quarter of 1924.

The number of living births recorded for the third quarter of 1924 was 304,633, as compared with 306,918 for the corresponding quarter of the previous year. The number of stillbirths was 9,631, as contrasted with 9,050 in 1923. These small differences in the records for the two years are not very significant.

The total number of deaths in the third quarter of 1924 was 166,992, as against 195,270 in the same quarter of 1923—a marked decrease in the general mortality.

The general mortality rate (inclusive of stillbirths) was 11.4 per thousand in 1924, as compared with 13.2 per thousand for the corresponding period in 1923, and 12.5 for 1922. The decrease is due partially to the reduction in infant mortality. The infant mortality rate, computed on the basis of the total number of living births, was 13.8 per cent for 1923, while in 1924 the rate had been reduced to 10.9 per cent, the lowest rate recorded in Germany.

The excess of births over deaths, the natural increase of population, was 137,641 for the third quarter of 1924, as compared with 111,648 for the corresponding period of 1923. When applied to the total population, these figures yield, respectively, 8.8 and 7.3 per thousand for the years 1924 and 1923, which is a very respectable showing, although the outcome falls far behind that of the years immediately preceding the war.

Marriages

John Edwin Norment, Baltimore, to Miss Blanche Elizabeth Richmond of Richmond, Va., January 30.

Howard B. Dillman, Louisville, Ill., to Miss La Fern Deabler of Xenia, at St. Louis, January 19.

Harris Quillian Jones, Fort Myers, Fla., to Miss Dorothea Jo Nees of Atlanta, Ga., Dec. 22, 1925.

Pren J. Ross, Grant City, Mo., to Miss Estelle L. McLean of Omaha, Dec. 14, 1925.

Frank C. Scott to Miss Doris E. Laudan, both of Waco, Texas, Nov. 11, 1925.

Deaths

Grover William Wende ⊕ professor of dermatology and syphilology in the University of Buffalo Department of Medicine died, February 9, following a fracture of the skull when he was hit by a street car while walking to a medical society meeting. Dr. Wende was born in Erie County, N. Y., in 1867. He received his degree in medicine from the University of Buffalo in 1889, and then spent three years in postgraduate study in this country and in Europe. In 1892 he joined the faculty of his alma mater and continued active teaching to the time of his death. A leader in his specialty, he held staff positions on the Erie County, General, German, Children, Sisters and City hospitals in Buffalo. Dr. Wende was active also in general medical affairs. His idealism was recognized by the presidency of the Medical Society of the State of New York, by the chairmanship of the Section on Dermatology of the American Medical Association in 1909 and 1910, and by continuous membership for several years in the House of Delegates. He had also been president of the American Dermatological Association. During the World War he served in the Surgeon General's Office. His literary contributions appear in many scientific periodicals, and he found time for research in the midst of an extensive, but well nigh perfectly organized dermatologic practice. The death of Dr. Wende came as a serious blow to many institutions and activities in which he took a prominent part. The University of Buffalo and the city itself suffered the loss of an inspirational leader and a man whom students and citizens held in universal high esteem.

John William Freeman ⊕ Lead, S. D.; New York University Medical College, 1879; past president of the South Dakota State Medical Association and the Black Hills District Medical Society; member of the state board of medical examiners, 1903-1905; health officer of Lead, 1910-1917; for several years president of the state board of medical examiners and board of health; for nine years member and for two years president of the board of education; for many years on the staff of the Homestake Hospital; director and vice president of the First National Bank of Lead; aged 72; died, February 2.

Morris Ephraim Alexander ⊕ Waterbury, Conn.; University and Bellevue Hospital Medical College, New York, 1916; member of the American College of Physicians; formerly clinical assistant in medicine, Yale University School of Medicine, New Haven; on the staffs of St. Mary's and Waterbury hospitals; aged 34; died, January 1, of Addison's disease.

Arthur Blaise Supple ⊕ Chicago; Northwestern University Medical School, Chicago, 1909; instructor in gynecology and formerly clinical assistant in gynecology at his alma mater; served during the World War; on the staff of St. Luke's Hospital; aged 38; died suddenly, February 4, of organic heart disease.

Ralph William Seiss ⊕ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1883; formerly lecturer on pathology, Woman's Medical College of Pennsylvania; at one time on the staff of the Pennsylvania Institution for the Deaf; aged 64; died, January 2, of bronchopneumonia.

Ferdinand Martin Schulz, Pasadena, Calif.; Rush Medical College, Chicago, 1890; for eight years commissioner of health of Milwaukee, and for fourteen years superintendent of the Milwaukee County Hospital; aged 65; died, January 30, at the Pasadena Hospital.

Edward J. McGeehan, McAdoo, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1892; member of the Medical Society of the State of Pennsylvania; for many years member of the board of health; aged 67; died, in January, of cerebral hemorrhage.

Benjamin L. W. Floyd, Evansville, Ind.; Kentucky School of Medicine, Louisville, 1896; member of the Indiana State Medical Association; secretary and past president of the Ohio Valley Medical Association; aged 55; died suddenly, January 27, of angina pectoris.

John Densmore Brewster, Windsor, Vt.; University of Vermont College of Medicine, Burlington, 1879; Medical Department of the University of the City of New York, 1880; member of the Vermont State Medical Society; aged 75; died, January 20.

Samuel T. Crowson, Taylorsville, N. C.; University of Tennessee College of Medicine, Memphis, 1904; formerly member of the state legislature and for many years county physician; aged 48; died suddenly, January 12, of heart disease.

Jack Harrison Ayers, New Orleans; Tulane University of Louisiana School of Medicine, New Orleans, 1924; assistant surgeon, U. S. Public Health Service; aged 25; died, January 24, at the U. S. Marine Hospital, no. 19, San Francisco.

Eren Duffin Hodges, Ranger, Texas; Fort Worth School of Medicine, Medical Department of Texas Christian University, Fort Worth, 1914; aged 37; died, Nov. 19, 1925, at the Base Hospital, Fort Sam Houston, following a long illness.

Edwin W. Martin, Fremont, Neb.; Cincinnati College of Medicine and Surgery, 1881; member of the Nebraska State Medical Association; past president of the Dodge County Medical Society; aged 80; died, January 27, of senility.

Benjamin Merrill Ricketts, Mount Gilead, Ohio; Miami Medical College, Cincinnati, 1881; member of the Western Surgical Association; aged 67; died, January 22, at the Marion (Ohio) City Hospital, of Hodgkin's disease.

Albert Tolman Wakefield, Sheffield, Mass.; Jefferson Medical College of Philadelphia, 1878; member of the Massachusetts Medical Society; aged 72; died, Nov. 4, 1925, of a fracture of the hip and diabetes mellitus.

Charles Joseph Cummings ⊕ Williamsport, Pa.; College of Physicians and Surgeons, Baltimore, 1903; past president of the Lycoming County Medical Society; aged 65; died, January 28, of cerebral hemorrhage.

Charles Edward Bigelow, Leominster, Mass.; Jefferson Medical College of Philadelphia, 1882; member of the Massachusetts Medical Society; chairman of the board of health; aged 70; died, February 1.

Harry Cairnes Algire, Baltimore; University of Maryland School of Medicine, Baltimore, 1895; aged 52; died, January 24, at St. Joseph's Hospital, of bronchopneumonia, following a fracture of the leg.

Joseph Friend Harris ⊕ New York; Albany Medical College, 1906; member of the New York Neurological Society; on the staff of Mount Sinai Hospital; aged 43; died, January 3, of cerebral hemorrhage.

James Loughridge, Folsom City, Calif.; University Medical College of Kansas City, Mo., 1899; member of the California Medical Society; formerly a practitioner in Kansas; aged 58; died, January 28.

Thomas E. Howle, Hartsville, S. C.; Medical College of the State of South Carolina, 1894; member of the South Carolina Medical Association; aged 67; died, January 20, of pneumonia.

Anna Louise Bacon, Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1894; aged 76; died, Nov. 6, 1925, at the Woman's Hospital, of cerebral hemorrhage and arthritis.

George Grattan Painter, Pulaski, Va.; College of Physicians and Surgeons, Baltimore, 1883; member of the Medical Society of Virginia; aged 68; died, January 23, following a long illness.

Tillman Howard Hunt, Albany, Mo.; American Medical College, St. Louis, 1878; Eclectic Medical Institute, Cincinnati, 1884; aged 83; died in January, at Emporia, Kan., of uremia.

Thomas Owen Pendleton, Pilot Grove, Mo.; Missouri Medical College, St. Louis, 1877; member of the Missouri State Medical Association; aged 73; died in January, of heart disease.

John Smedley Stetson, Chazy, N. Y.; Medical Department of the University of the City of New York, 1892; member of the Medical Society of the State of New York; died, January 28.

James Taylor ⊕ Edmonton, Ky.; Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1898; aged 48; died, January 24, of heart disease.

Allen George Heard ⊕ Houston, Texas; University of Texas Department of Medicine, Galveston, 1906; served during the World War; aged 44; died, January 21, of pneumonia.

John Parks Dugan, Springfield, Ohio; Miami Medical College, Cincinnati, 1883; member of the board of education for twenty years; aged 66; died, January 22, of angina pectoris.

James R. Daniel, Clarence, Mo.; Missouri Medical College, St. Louis, 1888; member of the Missouri State Medical Association; aged 65; died, January 25, at Rochester, Minn.

John S. Nitterauer ⊕ Ontonagon, Mich.; Hahnemann Medical College and Hospital, Chicago, 1880; formerly health officer of Ontonagon; aged 78; died, January 24.

Romulus Z. Linney ⊕ Charlotte, N. C.; Georgetown University School of Medicine, Washington, D. C., 1901; aged 48; died, January 20, of cerebral hemorrhage.

Charles Lewis Webster, Trenton, Mo.; Missouri Medical College, St. Louis, 1894; member of the Missouri State Medical Association; aged 55; died, January 30.

Thomas G. Calhoun, Tenaha, Texas; Marion-Sims College of Medicine, St. Louis, 1892; aged 55; died, January 23, of injuries received in an automobile accident.

John Henry Bolton, Baltimore; University of Maryland School of Medicine, Baltimore, 1862; aged 85; was found dead, January 25, of accidental gas asphyxiation.

Levi M. Imhoff, Olivesburg, Ohio; Cleveland College of Physicians and Surgeons, 1888; aged 67; died, January 20, of chronic nephritis and heart disease.

Jennie L. Edington Eddy, Marysville, Kan.; Kansas Medical College, Topeka, 1898; member of the Kansas Medical Society; aged 57; died, January 28.

John Michael Davey, Ponca, Neb.; Sioux City College of Medicine, 1905; aged 43; died, January 28, at St. Vincent's Hospital, Sioux City, of pneumonia.

Charles Wesley Worth, Jersey City, N. J.; Howard University School of Medicine, Washington, D. C., 1916; aged 42; died, Dec. 28, 1925, of pneumonia.

Charles H. Bateman, Bradfordsville, Ky.; University of Nashville Medical Department, 1890; aged 68; died, January 29, following a long illness.

Edgar William Young ⊕ Everett, Wash.; Medical Department of the University of the City of New York, 1885; aged 68; died, January 11.

John Tilghman Yourtee, Brownsville, Md.; University of Maryland School of Medicine, Baltimore, 1865; aged 84; died, January 27, of senility.

Francis Henry Olin ⊕ Southbridge, Mass.; University of Michigan Medical School, Ann Arbor, 1881; aged 70; died, January 15, of pneumonia.

Samuel Albert Foote, Rosseau, Ont., Canada; Trinity Medical College, Toronto, 1899; aged 60; died, Dec. 17, 1925, at Toronto General Hospital.

Pryor Lea Shelton, Plemons, Texas; University of Pennsylvania School of Medicine, Philadelphia, 1869; died in November, 1925.

M. A. Gunter, Jonesboro, Ill.; College of Physicians and Surgeons, Keokuk, 1878; aged 71; died, January 22, following a long illness.

John R. Shaffer ⊕ Detroit; University of Michigan Medical School, Ann Arbor, 1876; aged 72; died, January 24, at a local hospital.

Canute Walter Ruus ⊕ Chicago; University of Illinois College of Medicine, Chicago, 1909; aged 42; died, January 28, of pleurisy.

Henry F. Costello, Decatur, Ind.; Starling Medical College, Columbus, 1886; aged 63; died suddenly in January, of heart disease.

Irwin Willard Blake ⊕ Buffalo, Wyo.; Rush Medical College, Chicago, 1896; aged 54; died, January 6, at Kansas City, Mo.

Thomas L. Booth, Oxford, N. C.; Medical College of the State of South Carolina, Charleston, 1883; died, January 25.

Anthony John Avenia, Brooklyn; Long Island College Hospital, Brooklyn, 1922; aged 29; died, January 30, of pneumonia.

George A. Bundren, Grubbs, Ark. (licensed, Arkansas, 1903); aged 79; died recently, of valvular heart disease.

Charles Edgar Wilson ⊕ Kansas City, Mo.; Kansas City Medical College, 1889; aged 62; died, January 28.

The Propaganda for Reform

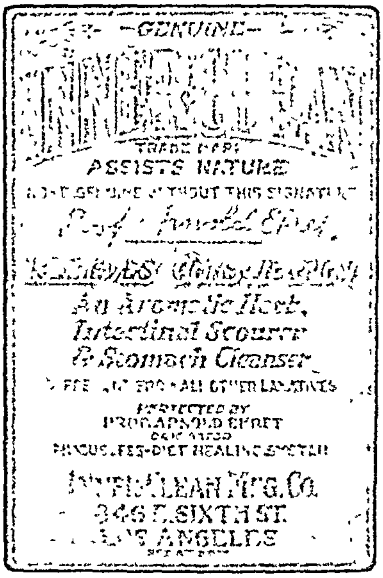
IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

INNER-CLEAN

An "Intestinal Scourer" and "Aromatic Herb-Vegetable Compound"

"Inner-Clean," put out by the Inner-Clean Manufacturing Company of Los Angeles, is said to be the discovery of "Prof. Arnold Ehret"—whoever he may be—the "Originator of the Mucusless-Diet Healing System." Inner-Clean, we are told, "Assists Nature"; also, it "Progressively and Thoroughly Cleanses and Rejuvenates Relaxed, Flabby Intestines." The exploiters, unable to express their enthusiasm in mere prose, break into poetry:

"Not a Drug, but Nature's way—
"Makes you better day by day."



—GENUINE—

ASSISTS NATURE

An Aromatic Herb,
Intestinal Scourer
& Stomach Cleanser

INNER-CLEAN MFG. CO.
346 E. SIXTH ST.
LOS ANGELES

"Professor Arnold Ehret's startling discovery" has "set the Scientific Drugless Healing World to Thinking." The special efficiency of Inner-Clean is said to be due to its ability to remove from the intestines "hardened feces, mucus and other age-old uneliminated, imperfectly digested, fatty substances."

"It scours the Intestines as Effectively as a Brush," says the advertiser, and illustrates its action by showing a bottle-brush in use. Whatever your particular ailment may be, "whether Indigestion, Nervousness, Boils, Headache, Rheumatism, Gout, Constipation or a general run-down condition, it can be directly traced to a clogged condition of the bowels."

Those who order Inner-Clean by mail are sent, in addition to the preparation, a four-page leaflet advertising the "Mucusless-Diet Healing System" by Prof. Arnold Ehret. The "system," apparently, is a book, which sells for $1.50, and is published by the Ehret Literature Publishing Co., having the same address as the Inner-Clean Manufacturing Co. The book is said to be the "result of a life-time of study by Prof. Ehret through actual contact with thousands of sufferers who regained health at his Sanitarium in Switzerland." Ehret's thesis seems to be that all ill health is due to constipation, which in turn is due to "wrong eating." The correction of this condition is that of taking up a "Diet of Healing," which must also be "combined with fasting."

THE JOURNAL has received a number of inquiries about Inner-Clean, and last September a woman consulted a San Francisco physician relative to what she thought were particles of glass that she had found in packages of Inner-Clean that she had purchased. The specimens were sent in by our correspondent and the substance in which she was interested was found to be not glass but sand.

The instructions that go with Inner-Clean suggest that those who use it avoid chewing it. In fact, a warning, "DO NOT MASTICATE" appears in black-face, capital letters in the directions that come with the package.

To determine just what other substances besides sand were in Inner-Clean, some packages were purchased direct from the exploiter and turned over to the A. M. A. Chemical Laboratory.

LABORATORY REPORT

"Two original boxes of Inner-Clean (Inner-Clean Mfg. Co., Los Angeles) were submitted to the A. M. A. Chemical Laboratory for examination. Each box contained about 50 grams (1⅘ ounces) of a greenish mixture having the appearance of coarsely chopped herbs, mainly leaves. According to the label, the product is "An Aromatic Herb, Intestinal Scourer and Stomach Cleanser." The amount of ash was found to be 8.3 per cent; sand was present to the extent of 1.6 per cent. Tests for metals and alkaloids were negative. Emodin-bearing drugs were present and also a mucilaginous-forming substance such as agar. Under the microscope the following substances were identified. The amounts given in parentheses are an *approximate estimate* based on microscopic examination, of the ingredients.

"Senna Leaves	(approximately 8 parts)
"Agar	(approximately 2 parts)
"Sassafras bark	(approximately 1 part)
"A vegetable bark resembling Frangula	(approximately 1 part)

"From the foregoing the product appears to be essentially a coarse *herb mixture (with a little sand) consisting mainly* of senna leaves. A third specimen examined later showed 2 per cent of sand."

Here, then, we have a mixture of chopped-up herbs, mainly senna, with some indigestible residue in the form of agar and a varying amount of sand. The harm a mixture of this sort may do to an inflamed mucous membrane of the gastro-intestinal tract can be better realized by physicians than by the general public.

Correspondence

CHOLESTEROL SYNTHESIS AND HYPERCHOLESTEROLEMIA

In The Journal, Oct. 3, 1925, page 1066, an editorial appears entitled "The Synthesis of Cholesterol in the Body." It is indicated therein that feeding experiments have shown that cholesterol need not have its source exclusively in the diet.

We submit further evidence on this point in the form of Dezani's work (*Arch. di farmacol. sper.* **12**:4, 1914). He fed measured quantities of cholesterol to white mice, and on analyzing their entire carcasses, found that the total amount of cholesterol therein was greater than what could be explained on the basis of that ingested.

The subject of cholesterol synthesis comes to medical men by various avenues. Foremost among these are the various considerations associated with hypercholesterolemia, in connection with which certain tissue changes may come about or be experimentally induced. Some, notably the atheromatous aortas of rabbits, have been repeatedly and rather uniformly elicited, but others, such as xanthoma tuberosum, have occurred so irregularly that we are compelled to seek other factors that may enter into the cholesterol problem. One of these is our newer light as to the varying properties of cholesterol (spectroscopically [Lifschutz: *Biochem. Ztschr.* **62**:219, 1914; **54**:217, 1913], after irradiation [Beumer, H.: *München. med. Wchnschr.* **72**:1585, 1925], for instance), and now, the addition of any new supplementary means, of inducing a hypercholesterolemia, as by synthesis, will be a most welcome addition toward the same ends. Leupold and Seisser (*Arch. f. Gynäk.* **119**:552 [Sept.] 1923) have dipped into the surface in their experiments on the suprarenal cortices of cats, but we still look forward eagerly to the development of a practical method of inducing such a synthesis.

Fred D. Weidman, M.D., Philadelphia.
F. William Sunderman, Philadelphia.

IRON IN ANEMIA

To the Editor:—The letter of Dr. Whipple (The Journal, January 30) needs a seconder, because the subject is of great importance. The assertion of Williamson and Ets (*Arch. Int. Med.* **36**:333 [Sept.] 1925) that inorganic iron is of no value in anemia is not true. From a clinical standpoint, bleeding an animal does not cause "anemia." Anemia is a distinct pathologic condition, primary or secondary. For laboratory experimenters to bleed animals and then to administer inorganic iron, and to state that it is of no benefit, but that food irons are of benefit, and then to draw the conclusion that inorganic iron is useless in the anemias of human beings, and broadcast the belief, is inexcusable. Such an assertion will certainly be used as an advertisement for the various organic irons on the market. Animals that have been bled, or human beings suffering from hemorrhage, do not have the iron content of the hemoglobin of the red corpuscles diminished. Clinicians do not administer iron to a patient who has had a hemorrhage with the idea of increasing the formation of new blood, but every clinician knows that a patient who has a low hemoglobin content of the red corpuscles will invariably have the hemoglobin content raised by the administration of an inorganic iron, unless the patient is in such a serious condition that death will soon occur. I do not wish, of course, to underestimate the great value of iron-containing foods in all cases of anemia.

Oliver T. Osborne, M.D., New Haven, Conn.

"HEROISM AND SCIENTIFIC PROGRESS"

To the Editor:—The editorial on "Heroism and Scientific Progress" in The Journal, February 6, rightly calls attention to the sacrifices made in the progress of medicine. Without any intention of detracting from the credit of the three men mentioned as martyrs to science, I cannot see why these have been selected above others who deserve equal credit, having paid the price of their devotion with their lives.

In this country the name of James Francis Coneffe should always be mentioned in connection with that of Ricketts, since he died of the same disease as Ricketts, contracted during his experiments on it. Thomas L. McClintick of the Public Health Service, and A. H. McCray of the Montana State Board of Health, lost their lives while working on Rocky Mountain spotted fever, and deserve equal honor with those who you have mentioned. Among foreigners, the brilliant Walter Myers lost his life by the bite of a mosquito while studying yellow fever, and J. Everett Dutton died of African relapsing fever. Bubonic plague claimed Alexandre Yersin and Hermann F. Müller.

These are well known and clear cases of death following the bite of infected insects while studying disease. Certainly there is glory enough for all of them, and invidious distinctions should not be drawn by mentioning some and not others.

Mazyck P. Ravenel, M.D., Columbia, Mo.

COMPULSORY HEALTH INSURANCE

To the Editor:—Compulsory health insurance concerns itself with the great economic problem of the wage earner. It has for its basis insufficient wages, or wages out of which no surplus is left to cover the needs during a period of illness. One of the needs being medical care, health insurance proposes to stand sponsor for that item.

But medical attention is only one of the needs of a sick wage earner. He needs rent, clothing, bread, nursing and several other necessaries, even though he is ill Therefore, if health insurance is contemplated at present, the next logical step to ameliorate conditions is compulsory bread or food insurance and compulsory rent insurance. That is, the movement is in the direction of an industrial state in which the wage earner will have his domestic needs supplied.

That is one corrective for low wages. It appears that the desired social benefit can be more directly approached from the basic cause by sufficiently increasing the wages of employees. Incidentally, this would solve other social problems affecting the physicians, among which is the much complained of dispensary evil. Patients will then not require gratuitous and often ineffectual treatment that they receive in the dispensary, and the general practitioner will receive the fee to which he is justly entitled.

It is surprising to find a small group of physicians in favor of compulsory health insurance. It is disappointing that they view such a comprehensive subject from the acute angle of the physician's pocket, for social problems should be looked at with a broad and unselfish eye.

I often wonder what the opinion is of those physicians who supported compulsory insurance in 1917—whether they have changed their feeling on the subject in these few years. I have no doubt they realize that the industrial situation in this country is the problem the solution of which is fundamental, and that compulsory health insurance cannot be looked on as a panacea. Morris H. Kahn, M.D., New York.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request

COMBINING MERCURY WITH NEO-ARSPHENAMINE

To the Editor:—In the treatment of primary syphilis I am advised to give intravenous neo arsphenamine and mercury simultaneously from the same syringe On combining mercuric oxycyanide and neo arsphenamine a black precipitate forms Are they not incompatible?

D. D. Shontz, M.D., Massillon, Ohio.

Answer.—Neo-arsphenamine is a reducing agent; a solution of it would be incompatible with the common soluble mercury compounds (with compounds in which the mercury is ionized extremely slightly, reduction would not take place). In fact, all arsphenamines are such chemically reactive substances that no therapeutic agent should be combined with the usual forms of solution as used for intravenous administration. Alternation of drugs rather than simultaneous administration is the present trend in antisyphilitic medication. Mercury compounds intravenously should be given more frequently and over a longer time than is permissible for the administration of arsphenamine in sufficiently large doses. Furthermore, it is generally more advisable not to give intravenous mercury medication, but to employ other forms such as the insoluble salts (or certain soluble salts) intramuscularly, or to apply inunctions.

FOOD COMBINATIONS

To the Editor:—For some time I have been receiving questions regarding the danger of eating at one time foods containing starch and acid. I have always tried to find out why the persons asking the question held this idea Usually, I have traced it to rather unreliable sources, such as the Defensive Diet League However, a few days ago I saw a statement put out by a member of the faculty of a neighboring state university in which the danger of eating starch and acid mixtures, such as potato salad, was stressed. The reasons given were that the acid would hinder the digestion of the starch in the mouth, and, since the gastric juice has an acid reaction, that there would be no digestion of starch until after the food left the stomach. The article closed with this statement: "If the stomach digestion happens to be slow, there is ample time and most advantageous conditions for fermentation to take place." I shall appreciate it very much if you will tell me just how much and what danger there is, if any, from eating combinations of starch and acid at the same meal.

Grace B Armstrong, Urbana, Ill.
Nutrition Specialist.

Answer.—We can find no authority verifying the danger of eating at the same time foods containing starch and acid. The subject offers a tempting field for speculation, and speculation easily runs into pet theories. The probable basis for the idea is the fact that salivary digestion occurs in a medium faintly alkaline to litmus. But the reaction of the medium is not by any means the only factor in salivary digestion.

Perhaps the most important rôle of mouth digestion is the mechanical preparation of food. It is also known that various stimuli to the secretion of salivary juice produce different kinds of saliva, and the kind and amount of saliva is influenced by the reaction and the food components of the meal.

Salivary digestion is continued in the acid stomach by means of the mechanism that holds food in the fundus. The duration of this intragastric salivary digestion depends to a great extent on the kinds of food eaten. Carbohydrates leave the stomach quickly, then protein and finally fat. A mixed meal remains in the stomach for a length of time depending on the proportion of the various foods in the meal. It is evident, then, that the amount of salivary digestion depends on many things.

One can, of course, theorize on these facts and deduce almost what one wishes. It would seem logical to assume that the common habit of eating salads—usually fruit or vegetables with a vinegar and oil mixture—answers a theoretical objection to starch and acid being eaten at the same time. For one sturdy race, potato salad is a staple dietary article.

It is difficult to avoid generalities in diet. Potato salad may not agree with all persons; nor does the acid orange juice disagree with all persons suffering from hyperacidity.

ENLARGED GLANDS IN THE NECK

To the Editor.—I have at present under treatment four patients with cervical lymphadenitis, a mother with her three sons The two daughters have remained free There is no history or signs of tuberculosis. The mouth and throat seem to be in good condition Two became sick about a year and the other two six months ago I have used arsenic and iodine but with no success Could you suggest some treatment?

C. Ascutia, M D, Indan, Camarines Norte, Philippines

Answer.—In view of the rarity of the primary varieties of lymphatic gland enlargement, such as Hodgkin's disease, and the fact that heredity does not seem to be concerned in the causation of these, the familial appearance of the cervical lymph gland enlargement reported points to one of the secondary forms. Of the two varieties of secondary lymphadenitis, the lymphogenous and the hematogenous, the localized appearance of the swelling practically eliminates the hematogenous form such as that due to syphilis, which otherwise might well be familial in its occurrence. Secondary lymphogenous chronic cervical lymphadenitis is extremely common in children and young adults, especially those that are poorly nourished; and it is at times difficult to differentiate between the tuberculous and the nontuberculous form. In the differentiation between these the tuberculin test might be helpful, and still more useful would be the removal of one of the glands—which could probably be done under local anesthesia—for bacteriologic and microscopic examination.

In the treatment of this condition, hunting for foci of infection in the area tributary to the affected lymph glands and eliminating these, when found, should be the first endeavor. Raising the patient's resistance by abundant food, fresh air and rest, possibly with the addition of cod liver oil, would be probably next in importance. Roentgenotherapy in proper dosage and at suitable intervals is generally strikingly efficient. If the condition proves to be of tuberculous origin, properly graded tuberculin treatment, reactions being carefully avoided, may be of additional advantage.

IMPETIGO IN HOSPITAL NURSERY

To the Editor—A week old baby in our nursery developed impetigo, about November 20 It was immediately isolated, but within the course of a few days two new cases were reported Since then we have had fourteen cases, irrespective of whether the child was breast or bottle fed A new case develops about every third or fourth day. Physicians have advised preventive methods, and we have tried many without success. To check the disease, we have: (1) washed the walls, ceilings, etc., of the nursery and delivery rooms; (2) fumigated with formaldehyde and potassium permanganate; fumigated with sulphur, (3) isolated mothers and babies infected, a special nurse serving only these patients; (4) treated the lesions with silver nitrate, 5 per cent, ammoniated mercury ointment, black wash, and mercurochrome 220 soluble; (5) as a preventive, given all babies an alcohol bath twice daily Please give methods of combating our problem If published, withhold name.

M D, Missouri.

Answer.—The methods employed have been very good, although the fumigations were probably unnecessary. An article on this subject by Dr. J. Harper Blaisdell, entitled "The Management of Impetigo Contagiosa in Maternity Hospitals," was published in The Journal, Sept. 13, 1924, page 833.

DANGER TO HUMAN BEINGS FROM TUBERCLE BACILLI IN MILK

To the Editor.—1 Can you cite authorities that would prove or substantiate the statement that human beings may contract tuberculosis by drinking raw milk from tuberculous cows? Is there proof or authority for the statement that tuberculosis has been contracted by human beings due to drinking milk from tuberculous cows, the milk having been pasteurized? A. H. G.

Answer.—1. Paul G. Heineman ("Milk," 1919, page 459, with Park and Krumwiede as authorities) says:

> These authors investigated 1,242 cases sent to them at random from various hospitals. The results show that among adults of 16 years or over suffering from tuberculosis—1 27 per cent; among children between 5 and 16 years—23 53 per cent; and among children below 5 years—23 21 per cent were infected with bovine tubercle bacilli.

On page 461 appears the following:

> In adults tuberculosis caused by bovine bacilli is rare and might perhaps be called negligible, if it could be safely assumed that von Behring's theory of infection in childhood is incorrect. In children bovine infections constitute about one fourth of all cases of tuberculosis, and from 6½ to 10 per cent of the total fatalities from tuberculosis among children are due to bovine infections

M. J. Rosenau in Preventive Medicine and Hygiene, ed. 3, 1917, page 137, writes:

> About one quarter to one third of all cases of tuberculosis in children under 5 years of age is associated with the bovine type. It is probable that all these cases derive their infection through the tubercle bacilli in cow's milk

L. C. Frank (A State Wide Milk Sanitation Program, *Pub. Health Rep.* **39**:2765 [Nov. 7] 1924) says:

> Milk is responsible for a large amount of "bovine" tuberculosis among children, a damage which is more insidious and less easily traced than that caused by the more spectacular outbreaks of epidemic disease.

Joseph Garland (Milk and the Public Health, *Boston M. & S. J.* **189**:464 [Oct. 4] 1923) says.

> The proper pasteurization of milk, despite the views of some investigators, undoubtedly removes the danger from bovine tuberculosis, as does boiling.

We find in Rosenau's book, on pages 582 and 583, these assertions:

> Milk heated to 60 C and held at that temperature for twenty minutes will kill the virus of tuberculosis . It is advisable in commercial practice to heat milk to 65 C. for a period of thirty or forty five minutes.

The general opinion thus seems to be that pasteurization will render milk safe, provided the pasteurization is properly done. An editorial in this issue deals with this subject.

PERTUSSIN

To the Editor —The people manufacturing Pertussin circularize the profession with a statement that it is ethical in its dealings I find this ad in the Chicago *Tribune* My suggestion would be that the men using it discontinue to use it on the grounds that the house manufacturing it is not an ethical house. Samuel Lerner, M D, Chicago

Answer—The reason the medical profession should refuse to prescribe Pertussin is not primarily that the stuff is advertised to the public, but that it is a product of indefinite composition, marketed under a nondescriptive, therapeutically suggestive name, and is exploited with misleading claims Pertussin, the medical profession should realize, is one of many proprietaries which have been popularized through the uncritical testimonials given by physicians. As long as ago as March 8, 1913, The Journal brought the facts before the profession in the following words:

> It belongs to that class of vegetable preparations which, since they contain no distinctive principle, are difficult to analyze—particularly as concerns the "joker" in the formula, in this case "Ol Thymi, et Thymol" and "Ext. Thymi 'Taeschner'"—hence there has been much dispute in Germany as to the composition of this nostrum In general, it appears that whatever virtues it has are due to some preparation of common thyme in a menstruum containing water, sugar and alcohol.

Nearly six years ago (March 27, 1920) The Journal gave a formula for making a syrup of thyme, and stated that this "yields a product very similar to 'Pertussin' in taste, flavor, composition, and probably in activity as well" At the same time it was suggested that other aromatic expectorants, such as terebene, terpin hydrate or creosote, might be expected to have an effect similar to, but greater than, that of a syrup of thyme in bronchitis. For many years Pertussin has been exploited to the medical profession by the firm of Seeck and Kade. Recently display advertisements in newspapers have exploited Pertussin to the public, thus putting it frankly in the "patent medicine" class.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alaska: Juneau, March 2 Sec, Dr. Harry C. De Vighne, Juneau.

California. Los Angeles, March 8-11. Sec, Dr. Charles B Pinkham, Room 906, Forum Bldg, Sacramento

Connecticut: Hartford, March 9-10. Sec, Dr. Robert L. Rowley, 79 Elm St., Hartford Homeo Board, New Haven, March 9. Sec, Dr. Edwin C. M Hall, 82 Grand Ave, New Haven.

Idaho: Boise, April 6. Commissioner of Law Enforcement, F. A. Jeter, Boise.

Maine. Portland, March 9-10 Sec, Dr. Adam P. Leighton, Jr, 192 State St, Portland

Massachusetts: Boston, March 9-11. Sec, Dr. Frank M. Vaughan, 144 State House, Boston

Missouri: Jefferson City, March 9 11. Chief, Licensure, Dr. Ross Hopkins, Capitol Bldg, Jefferson City, Mo

Montana: Helena, April 6 8 Sec, Dr. S. A. Cooney, Helena

New Hampshire: Concord, March 11-12. Sec, Dr. Charles Duncan, Concord

New Mexico: Santa Fe, April 12-13. Sec, Dr. W. T. Joyner, Roswell.

Oklahoma: Oklahoma City, March 9-10. Sec., Dr. J. M. Byrum, Shawnee.

Porto Rico: San Juan, March 2. Sec, Dr. D. Biascoechea, Box 804, San Juan

Michigan October Examination

Dr. Guy L. Connor, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 13-15, 1925. The examination covered 14 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 26 candidates examined, 24 passed and 2 failed. Sixty-seven candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
Howard University School of Medicine	(1925)	75, 77
Harvard University	(1923) 84.9, (1924)	85.2
Detroit College of Medicine and Surgery	(1897)	87.5
Washington University School of Medicine	(1924)	87.4
University of Pennsylvania School of Medicine	(1924)	84.6
Dalhousie University Faculty of [illegible]	[illegible]	79.8
Queens University Faculty of [illegible]		84.4
Trinity Medical College		82.8
University of Toronto Faculty of Medicine	(1920)	83.9, 87.4, (1921) 86.5, (1923) 86.3, (1924) 78.9, 82.3, 85.2
University of Western Ontario Med School	(1920) 88, (1922)	88.1
McGill University Faculty of Medicine	(1924) 83.7, (1925)	86.1
University of Jena, Germany	(1922)*	79.4
American University Medical School, Beirut, Syria	(1922)*	86.6

FAILED

College	Year Grad	Per Cent
University of Palermo, Italy	(1904)* 63.2, (1920)*	65.2

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
College of Medical [illegible]	[illegible]	California
University of Color[illegible]	[illegible]	Colorado
George Washington [illegible]	[illegible]	Colum
Chicago College of [illegible]	[illegible]	Ohio
Hahnemann Medical College and Hospital, Chicago	(1901)	Washington
	(1918)	Illinois
Loyola University School of Medicine	(1921), (1925)	Illinois
Northwestern University Medical School	(1925)	Illinois, Iowa
Rush Medical College	(1897), (1920), (1923), (1924)	Illinois
University of Illinois College of Medicine	(1914)	Wisconsin
Medical College of Indiana	(1896)	Illinois
State University of Iowa College of Med	(1922), (1924, 3)	Iowa
Kentucky School of Med, Louisville	(1890) Illinois, (1891)	Kentucky
Tulane University of Louisiana School of Medicine	(1918)	Oklahoma
College of Physicians and Surgeons, Baltimore	(1909)	W. Virginia
	(1914)	Ohio
Johns Hopkins University Medical Department	(1919), (1921), (1922), (1924)	Maryland
University of Maryland School of Medicine	(1923)	Illinois
Harvard University	(1920, 2)	Mass
Tufts College Medical School	(1924)	Mass.
University of Michigan Med School	(1888) Illinois, (1903)	Ohio
University of Minnesota Medical School	(1923), (1924)	Minnesota
Barnes Medical College, St Louis	(1899)	Missouri
St Louis Univ School of Med	(1919), (1921), (1924, 3)	Missouri
Washington University School of Medicine	(1920), (1924)	Missouri
New York Homeopathic Med Coll and Flower Hosp	(1916)	New York
Syracuse University College of Medicine	(1923), (1924)	New York
Cleveland College of Physicians and Surgeons	(1905)	Ohio
Ohio State University College of Medicine	(1923, 2)	Ohio
University of Cincinnati College of Med	(1923), (1924)	Ohio
Jefferson Medical College of Philadelphia	(1921)	Texas
Medico Chirurgical College of Philadelphia	(1914)	Mass.
University of Pennsylvania School of Medicine	(1922)	Penna.
Medical College of the State of South Carolina	(1915)	S Carolina
Meharry Medical College	(1899), (1901)	Tennessee
University of Texas Department of Medicine	(1924)	Texas
McGill Univ Faculty of Med	(1923) Washington, (1924)	Maine
Western University Faculty of Medicine	(1897)	Illinois
University of Bonn, Germany	(1923)	Iowa
University of Frankfort, Germany	(1921)*	Ohio
University of Wurzburg, Germany	(1920)*	Kansas

* Verification of graduation not completed by the American Medical Association.

Ohio December Examination

Dr. Henry M. Platter, secretary of the Ohio State Medical Board, reports the oral, written and practical examination held at Columbus, Dec. 2-4, 1925. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 67 candidates examined, 64 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
Howard University School of Medicine	(1925)	75 1, 75 8, 79
Chicago College of Medicine and Surgery	(1913)	77 6
Loyola University Schoc	(1925)	75
Johns Hopkins Universit 2,	(1925)	83 4
University of Maryland	(1925)	81.6, 84 3
Harvard University (1923) 82 2,	(1925)	84 6
University of Michigan Medical School	(1925)	83.4, 86 2
University of Minnesota Medical School	(1925)	87.8
St. Louis University School of Medicine	(1923)	81.3,
(1925) 80 3, 80 7, 80 8, 84 6, 85		
John A Creighton Medical College	(1903)	71 7*
University of Buffalo, Department of Medicine	(1924)	84 5
Eclectic Medical College, Cincinnati	(1925)	79 8
Ohio State University College of Medicine	(1925)	80 1,
80 6, 81.6, 84, 84 4, 84 8		
University of Cincinnati, College of Medicine	(1925)	84 8
Western Reserve University School of Medicine	(1925)	85 5
p of Philadelphia	(1925)	82 1, 82.3, 87 3
iladelphia	(1925)	88 6
l of Med (1924) 77 7,	(1925)	81 8
ennsylvania	(1924)	82 9, 83 5
	(1925)	78 7
f Medicine	(1924)	83 6
of Med (1916) 84 1,	(1921)	85,
85 5, (1924) 81 3, 85 8,		
(1925) 85 7		
University of Western Ontario Medical School	(1923)	84 6, 90 5
Western University Faculty of Medicine	(1922)	84 4
McGill University Faculty of Medicine	(1923)	76 2, 84 9
University of Vienna, Austria (1920)† 77 1,	(1921)†	76 5,
(1924)† 76 8		
National University of Athens, Greece	(1920)	76 4
Comenian University of *Bratislava, Czechoslovakia* (formerly Poszony)	(1921)†	78 7
University of Budapest, Hungary	(1906)†	79 1
University of Szegedin, Hungary	(1915)†	78 5
University of Naples, Italy (1915)† 75, (1920)† 77 4,	(1922)†	77

FAILED

College	Year Grad	Per Cent
Meharry Medical College	(1924)	67 3
University of Munich, Germany	(1924)†	71 5*
University of Naples, Italy	(1923)†	70 9

* 3 3 per cent allowed for years of practice

† Verification of graduation not completed by the American Medical Association

Book Notices

Clinical Researches in Acute Abdominal Disease By Zachary Cope, B A., M D, M S, Senior Surgeon to Out Patients, St Mary's Hospital, Paddington Cloth Price, $4 Pp 148, with 31 illustrations. New York. Oxford University Press, 1925.

This comprises "for the most part an expansion of the Arris and Gale lecture at the Royal College of Surgeons in 1922 and published in the *Lancet* the same year." The first chapter is devoted exclusively to a theoretical discussion on the scope of clinical research. Next is a consideration of the localization of abdominal pain through the function of the parietal peritoneum This chapter mentions the old discussion relative to the presence or absence of nerves in the peritoneum, which has been decided in favor of the former. Following a consideration of muscular rigidity is a considerable number of pages on abdominal cutaneous hyperesthesia. The hyperesthetic areas are discovered by means of an ordinary pin held at a definite angle. The author furnishes a number of illustrations depicting the size of the sensitive zone in each of a number of pathologic processes. The next item is a consideration of the reference of pain from the area of distribution of the phrenic nerve to the region of the shoulder. Although this subject is not entirely new, the author brings out some new angles. In at least one of his conclusions he differs from the opinion of Capps. This concerns the relationship existing between the particular part of the phrenic nerve irritated and the distribution of the pain about the shoulder region. An interesting chapter is then devoted to the differential diagnosis between thoracic and abdominal conditions, especially such as those pathologic processes which lie just above or just below the diaphragm. A few pages are then given over to acute appendicitis with symptoms referable to the genito-urinary tract, which is then followed by the final chapter, dealing with subacute perinephric abscess occurring without disease of the kidney. On the whole, this little volume offers many points, not only valuable in a theoretical way but also of great service in everyday clinical problems. One finds practically nothing to criticize, but many reasons for praise.

Essentials of Psychiatry. By George W. Henry, M.D., Senior Physician, Bloomingdale Hospital. With a Chapter on Psychiatric Nursing By Adele Poston, R.N. Cloth. Price, $2 75. Pp 199. Baltimore: Williams & Wilkins Company, 1925.

In this small volume Dr. Henry has essayed the task of presenting the whole field of psychiatry in a form suitable for "the general practitioner, the student, the nurse and the social worker." He has taken as the basis of his subject the personality and its disorders, and to a considerable degree he has brought home clearly the possibility of a real understanding of the symptoms of mental disorders. The book, however, suffers seriously from its extreme condensation, which at times leads the author into very questionable assertions, such as that "neurasthenia . . . has as a common cause excessive sexual indulgence previous to and during the time when the symptoms are manifested." This is probably not intended as a definition, but from the manner in which it is presented it will probably be so regarded. Such statements are certainly open to question and are surely not suited for the type of reader for which the book is intended. Illustrative cases are used extensively in the text, but the relation of the words and acts described to the personality and faulty mental hygiene are often not even discussed; the untrained reader cannot fail to regard them as "symptoms" indicative of some "disease," and thus lose the understanding which the author has set himself to teach. The chapters on treatment and psychiatric nursing are in reality highly technical, though expressed in simple words; the need of special skill and knowledge on the part of those who would apply them are not sufficiently emphasized; no mention is made, for instance, of the dangers of unskilled psychanalysis. There is so much that is good in the book, particularly the brief chapter on mental hygiene, that one can only regret the defects that have resulted from attempting too much.

Muscular Activity. (The Herter lectures for 1924.) By Archibald Vivian Hill, M A, Sc.D., F R S, Professor of Physiology, University College, London. Cloth. Price, $2.75. Pp 115, with illustrations. Baltimore Williams & Wilkins Company, 1926.

This consists of four lectures given by Professor Hill at Johns Hopkins University. In these lectures are set forth in some detail the results of investigations on the physiology of muscular activity and the nature of muscular contraction conducted by Professor Hill and his associates, and by Professors Meyerhof of Germany, Krogh of Copenhagen, and Hopkins and Fletcher of Cambridge University, England. The ingenious methods developed by these authors for further elucidation of the physical and chemical phenomena in muscular contraction are described. Among the interesting conclusions arrived at are that oxygen is needed, not for muscular contraction, but for the recovery of the muscle after contraction, and that the only source of energy for muscular contraction is glycogen and not, as Lusk maintains, also fat. The fourth lecture deals particularly with recovery processes after exercise in man. This chapter is of particular interest to those interested in physical therapy and physical education The facts and theories are set forth in a clear and lucid style, and the author succeeds in maintaining interest by his clear and impartial exposition. To each chapter is appended a short bibliography, and there is an index.

Massage and Therapeutic Exercise By Mary McMillan, Director of Physiotherapy "Courses for Graduates," Harvard Medical School, 1921 1925 Second edition Cloth Price, $2.50 Pp 331, with 117 illustrations Philadelphia: W. B. Saunders Company, 1925.

This is a concise and yet fairly complete and practical manual on physical therapy, chiefly massage and therapeutic exercise, but also with references here and there to the use of electrotherapy, hydrotherapy and phototherapy, where the latter procedures link with the former. It may be recommended not only to physiotherapy aides but also to medical students, for whom a course such as outlined here would be of the greatest possible value.

Ultra-Violet Radiation and Actinotherapy. By Eleanor H. Russell, M.D., B.S., and W. Kerr Russell, M.D., B.S. Cloth. Price, $3.50. *Pp. 262, with 77 illustrations. New York: William Wood & Co.,* 1925.

This is a modest, concise treatise, written with a simplicity of style and a conservatism that is pleasing. The authors state that they have deliberately avoided any temptation to empiricism and enthusiasm. The material for the book was drawn from the extensive experience of the collaborators, who served in a large war pension hospital in England, as well as from critical observation in private practice. The book describes principally the use of ultraviolet radiation in the authors' own practice. The subject matter is logically arranged and simply presented, and the theoretical portion, that dealing with the chemical and biologic factors of radiant energy, is well substantiated by authentic laboratory findings. The mechanical construction of ultraviolet emanation apparatus is broadly dealt with and the relative merits of the mercury vapor lamps versus the carbon arc or impregnated tungsten carbon is intelligently discussed, the tungsten carbon lamp being assigned a place of value. In the second half of the book, dealing with the practical application of ultraviolet energy to disease, the "tempered enthusiasm" of the authors seems to slip. One cannot wholly accept the statements that "primary sores, condylomata and gummata have all been successfully treated with ultraviolet rays," or that "cirrhosis of the liver and chronic inflammatory lesions of the gallbladder are other conditions in which good results have been reported," without stretching credulity to an uncomfortable point.

Gynécologie chirurgical, genito-statique. Par C. Sobre-Casas, *Chef du service de gynécologie de l'Hôpital Torcuato de Alvéar.* Preface du Dr. Doleris, Membre de l'Académie de médecine. Paper. Price, 25 francs. Pp. 40, with 37 illustrations. Paris: Masson et Cie, 1925.

This is from the gynecologic department of the Torcuato de Alvear Hospital (Buenos Aires). It is written in French instead of the Spanish one would expect, and seems rather to incline toward the French traditions of medicine. This tendency receives support, too, from the introduction furnished by Dr. Doleris. The title emphasizes the purpose of the author to follow the physiologic laws of the pelvis in all surgical intervention. Dr. Sobre-Casas holds it to be the first duty of the operator to avoid all organic injury and no less important to conserve pelvic tissue and promote the return of the pelvic machine to normal function. This is a high and laudable ambition which is only too often disregarded. The author takes up in detail and explains by excellent illustrations the various steps in such operations as hysterectomy with suspension, conservative salpingectomy, tunnelization of the round ligaments, uterine prolapse of different degrees, and perineal repair. The volume is not intended to be exhaustive; but in expressing a welcome to this South American contribution and the gratification inspired by its idealistic purpose, we may hope that the next edition will be amplified.

An Index of Treatment by Various Writers. Edited by Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital, and James Sherren, C.B.E., F.R.C.S., Surgeon to the London Hospital. Ninth edition. Cloth. Price, $12. Pp. 1035, with 108 illustrations. New York: William Wood & Co., 1925.

This edition has been brought to date by the inclusion of many advances since the appearance of the previous edition. Time and space will not allow critical consideration that a work of this sort merits. If it were possible, however, to bring home to the attention of the young man just going out into practice the advice given in the introduction, much might be done to prevent him from "being blown about by every wind of doctrine." Sanity in the practice of medicine cannot be too strongly emphasized. While one might differ with the authors in many things, still, for a work of its sort, this is a good outline of therapeutics.

The Bereft. A Series of Asylum Romances. By George Anthony Zeller, M.D., *Managing Officer of the Peoria State Hospital.* Paper. Gratis. Pp. 114. Department of Public Welfare (Illinois), 1925.

Truth is never as good reading as fiction, unless perhaps developed by the trained writer of fiction. These sketches of nine patients observed in an asylum for the insane have unfortunately the difficulty of representing truth in an attempt at fictional form. They must be of great interest to those familiar with the environment, but have, unfortunately, little literary interest for the general reader. It would be fascinating to see what could be done with the outlines here presented by a writer with the qualities of Edgar Allen Poe or an O. Henry.

Chirurgische Operationslehre für Studierende und Aerzte. Von Prof. Dr. Friedrich Pels Leusden, ord. Prof. der Chirurgie und *Direktor der chirurgischen Universitätsklinik und Poliklinik zu Greifswald.* Fourth edition. Paper. Price, 18 marks. Pp. 832, with 771 illustrations. Berlin: Urban & Schwarzenberg, 1925.

Many surgeons feel that the literature has reached a point of saturation in books dealing with operative technic; that fundamental variations in surgical procedure have not justified the number of extensive works on operative surgery that have appeared. In its arrangement and scope, this work is like the average volume of its kind. There are preliminary chapters on anesthesia, antisepsis and methods of suturing. Subsequent chapters are devoted to regional surgery. The work is too condensed and too poorly illustrated to be of great material value.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

Handbuch der speziellen pathologischen Anatomie und Histologie. Herausgegeben von F. Henke und O. Lubarsch. Zwölfter Band. Gehörorgan. Bearbeitet von A. Eckert, M. Koch, W. Lange, H. Marx, H. G. Runge, O. Steurer und K. Wittmaack. Paper. Price, 84 marks. *Pp. 802, with 640 illustrations. Berlin:* Julius Springer, 1926.

Complete systematic study of anatomy and pathology of the ear, profusely illustrated.

Baldness: Its Cause and Prevention. By George S. MacLeod. Cloth. Price, $1.50. Pp. 127, with 51 illustrations. Seattle, 1925.

After four years of study, author concludes that pressure of hat on blood vessels of scalp produces baldness!

Twenty-Third Annual Report (1924-1925) of the Imperial Cancer Research Fund. Under the direction of the Royal College of Physicians of London and Royal College of Surgeons of England. London, 1925.

A review of money received and papers published; apparently efforts are being made to check up studies of Gye and Barnard.

Ueber den Zusammenhang zwischen der Albuminurie und der Wasserstoffionenkonzentration im Blut und Urin. Inaugural-Dissertation. Zur Erlangung der medizinischen Doktorwürde mit Genehmigung der weiterfahrenen medicinischen Fakultät der Universität Uppsala Vorgelegt. Von Alfred Bjure. Paper. Pp. 237, with illustra*tions. Uppsala: Almqvist & Wikselles, 1925.*

Physicochemical study of albuminuria.

Studies *on the* Morphology *and* Morphogenesis of Human Thoracopagic Monsters. With special reference to the malformation of the heart. Inaugural Dissertation. By Fredrik Ysander. Paper. *Pp. 236, with illustrations.* Uppsala: *Almqvist & Wikselles, 1924.*

Detailed embryologic analysis as to etiology of monsters.

Pathologisch-anatomische Studien *über die* Osteodystrophia fibrosa (Sog. Ostitis fibrosa v. Recklinghausen). Akademische Abhandlung zur Erlangung der medizinischen Doktorwürde mit Genehmigung der weiterfahrenen medizinischen Fakultät zu Uppsala Vorgelegt. Von Ture Stenholm. Fil. Mag., Norrl. Paper. Pp. 211, with illustrations. Uppsala: Almqvist & Wikselles, 1924.

Author establishes relationship of osteodystrophy to disturbances of calcium metabolism and improper nutrition.

Undersokningar over Aeggvitefallning med Syror och sura Saltlosningar. Akademisk Avhandling som med tillstånd av Medicinska Fakulteten vid Uppsala Universitet för vinnade av medicine doktorsgrad offentligen försvaras å Fysiologiska Institutionens föreläsningssal lördagen den 17 januari 1925 kl. 10 f. m. Av B. Limberger. Paper. Pp. 68. Stockholm: P. A. Norstedt & Sons, 1924.

Transactions of the American Ophthalmological Society. *Sixty-first* annual meeting, Washington, D. C., 1925. Philadelphia: American Ophthalmological Society, 1925.

Report of the Registrar General. For the fiscal year ended June 30, 1923. Board of Health of the Territory of Hawaii. Honolulu, 1925.

Memórias do Instituto de Butantan, 1925. Tomo II—Fasciculo Unico Paper. Pp. 119, with illustrations. São Paulo, Brazil, 1925

Lactobacillus Acidophilus By Nicholas Kopeloff, Ph D, Associate in Bacteriology, Psychiatric Institute, Ward's Island, N. Y. Cloth. Price, $5. Pp 211, with illustrations. Baltimore. Williams & Wilkins Company, 1926.

A general consideration concluding that "constipation, diarrhea and other intestinal disorders may be satisfactorily treated by *L. acidophilus.*"

Ultra-Violet Rays in the Treatment and Cure of Disease By Percy Hall, M.R.C.S., L R C P. With introductions by Sir Henry Gauvain, M A, M D., M C, Medical Superintendent, Lord Mayor Treloar Cripples' Hospitals, and Leonard E. Hill, M B, F R S, Director, Department of Applied Physiology and Hygiene, National Institute of Medical Research, London. Cloth. Price, $3 75. Pp. 110, with illustrations. St. Louis: C. V. Mosby Company, 1924.

A rather careless collection of material illustrating various types of apparatus and making no attempt at actually scientific evaluation of clinical results.

Scoliosis Rotary lateral curvature of the spine. By Samuel Kleinberg, M D., F A C S, Assistant Surgeon, New York Hospital for Ruptured and Crippled. Cloth. Price, $6 Pp. 311, with 140 illustrations. New York: Paul B. Hoeber, Inc, 1926

Monographic consideration, well printed and illustrated, dealing with both prevention and treatment of scoliosis.

Industrial Fermentations By Paul W. Allen, M S, Ph D, Professor of Bacteriology and Head of Department, University of Tennessee. Cloth Price, $5 net Pp 424, with illustrations New York: Chemical Catalog Company, Inc., 1926

Practical discussion of food preservation, disinfection, and industrial processes involving fermentation.

Lectures on Nutrition. A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St Louis), 1924 1925 Cloth Price, $2 50 net. Pp. 243, with 22 illustrations Philadelphia: W. B Saunders Company, 1925.

Symposium by noted investigators defining present knowledge of metabolism, vitamins and kindred subjects.

Our Present Knowledge of Heredity A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa and Washington (St Louis), 1923-1924 Cloth Price, $2 50 net. Pp 250, with illustrations Philadelphia: W. B Saunders Company, 1925.

The knowledge of heredity elucidated by well known investigators with especial attention to sex, acquired characters, cancer and eugenics.

Medical Formulary. By E. Quin Thornton, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Twelfth edition. Cloth Price, $2.50 Pp. 352. Philadelphia: Lea & Febiger, 1925.

A list of prescriptions recommended for various symptoms, based on the latest pharmacopeia, but the wrong way to learn pharmacology and therapeutics.

Prescription Notes By Arthur L. Tatum. Leather. Price, $1.25. Pp 22. Chicago. University of Chicago Press, 1925.

The elements of prescription writing with plenty of blank pages for recording prescription favorites.

Modern Medicine Its theory and practice in original contributions by American and foreign authors. Edited by Sir William Osler, Bart, M.D, F R S Third edition Reedited by Thomas McCrae, M D, Professor of Medicine in the Jefferson Medical College, Philadelphia. Assisted by Elmer H. Funk, M D, Assistant Professor of Medicine, Jefferson Medical College, Philadelphia Volume II Diseases of doubtful etiology; diseases caused by protozoa, spirochetes and animal parasites, diseases due to physical, chemical and organic agents; deficiency diseases Cloth. Price, $9. Pp 891, with illustrations Philadelphia: Lea & Febiger, 1925.

Good revision of this standard work, bringing each subject up to date.

The Diseases of Children. By the Late Sir James Frederic Goodhart, M D., LL D, F.R C P Edited by George Frederic Still, M.A, M D., F R C P., Professor of Diseases of Children, King's College, London. Twelfth edition Cloth Price, $8 50. Pp. 966, with 68 illustrations Philadelphia: Lea & Febiger, 1926

The last edition of this standard English textbook appeared in 1920, giving opportunity for much excellent revising by Dr. Still.

Miscellany

EARLY POSTMORTEM EXAMINATIONS BY EUROPEANS IN AMERICA

LUDVIG HEKTOEN, M.D.
Chicago

July 10, 1533, a double female monster was born in San Domingo. Oviedo (1478-1557), the author of Historia General y Natural de las Indias, saw the twins the next day and describes them as fused from the umbilical region to just below the breasts, the right side of the larger twin being joined to the left side of the smaller. There was a single navel, two legs, two arms and two breasts, and each head had good features ("each would have been a beautiful woman"). From the father's answers to those in authority it was deduced that it concerned two individuals and two souls, and accordingly the twins were baptized as Johanna and Melchiora In order to escape all possible difficulty, the priest who baptized them made use of the formula required for the baptism of those concerning whose previous baptism there is doubt. The twins lived eight days, and a postmortem examination was made to study further the question of whether they were one or two individuals. Oviedo was present and he recorded the observations at what seems to be the first necropsy by Europeans in the new world as follows:

> "Having died the night before, on the eighteenth day of the same month and year [July, 1533] their parents gave consent to their being opened; when they had been placed on a table, the bachelor, Johan Camacho, master surgeon, opened them in the umbilical region with a lancet in the presence of Hernando de Sepulveda and Rodrigo Navarro, doctors of medicine, and drew out all the viscera; and they had everything that is to be found in two human bodies as follows: There were two sets of guts, the intestinal tracts were distinct and separate, in each were two kidneys and two lungs; each had a heart, and there was a liver and biliary apparatus for each; but the livers were joined one to the other, with, however, a furrow or line between the two which clearly showed the part that belonged to each. And having been opened in this way it was seen that the umbilicus or navel, which from without appeared to be one, was divided within into two canals, or cords, and that each one of them went within to its proper body or creature to which it belonged, although it appeared from without as I have said to be single."

The results of the examination were held to support the deduction that Johanna and Melchiora were two individuals and they were officially spiritually disunited.[1]

So far as we know now, Champlain records the next earliest postmortem examinations in America. These appear to be the first examinations of adults and also the first for the purpose of delving into the nature of disease. Champlain spent the winter of 1605 on St. Croix Island. In the original edition of his Voyages (Paris, 1613) he writes (livre 1, chap. VI, pp 53-54):

> "During the winter many of our people suffered from an illness called 'mal de terre,' or scurvy, a name since given by the doctors. In the mouths of the afflicted were large pieces of sloughing flesh with great putrefaction. The condition grew worse until they could not take food, not even liquid easily The teeth were loose and could be removed with the fingers without pain. Cutting away the sloughing flesh caused much bleeding. Later there was severe pain in the arms and legs, causing great distress; and because of the contraction of the nerves, the patients could not walk Even passive movements were painful. There were also pains in

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[1] This account is abstracted from the interesting article by A Pena Chavarria and P. G Shipley on The Siamese Twins of Espanola (the First Known Postmortem Examination in the New World) in the Annals of Medical History **6**: 297, 1924.

the kidneys, stomach and intestines and shortness of breath. Many fell into syncope, and out of seventy-nine affected, thirty-five died. Most of those that recovered complained of some pain and shortness of breath."

The course was not influenced by any of the remedies that were used, and several bodies were examined in order to discover the cause of this "very cruel malady."

"In the case of many," writes Champlain, "the interior parts were found mortified, such as the lungs, which were so changed that no natural fluid could be perceived in them. The spleen was serous and swollen. The liver was legueux [woody] and spotted without its natural color. The vena cava, superior and inferior, was filled with thick coagulated and black blood. The gall was tainted. Nevertheless, many arteries, in the middle as well as lower bowels, were found in very good condition. In the case of some, incisions with a razor were made on the thigh where they had purple spots, whence there issued a very black clotted blood. This is what was observed on the bodies of those infected with this malady. Our surgeons could not help suffering themselves in the same manner as the rest. Those who continued sick were healed by spring, which commences in this country in May. That led us to believe that the change of season restored their health, rather than the remedies prescribed."[2]

Champlain passed the following winter at Port Royal. He writes (Voyages, chap. XI, p. 101):

"After having examined it [copper mine] we returned to our settlement, where we found some of our men ill with scurvy, though not so seriously as at Ste. Croix island. Yet, of the forty-five of us twelve died, of whom our miner was one, and five were ill who recovered on the approach of spring. Our surgeon, named Des Champs, of Honfleur, a man skilled in his profession, opened some of the bodies to see if he could discover the cause of this illness better than had those who had tried in the previous year. He found the same parts of the body affected as in those opened on Ste. Croix island, and could discover no remedy for curing them any more than had the others."

Champlain's surgeons were pioneers in the study of scurvy. It is noteworthy that their necropsies in Champlain's winter camps were made at a period when the necropsy as a method of studying disease was still in its earliest stages.

Medicolegal

Liability of Charitable Institutions for Injuries

(St. Mary's Academy of Sisters of Loretto of City of Denver et al. v. Solomon (Colo.), 238 Pac. R. 22)

The Supreme Court of Colorado says that plaintiff Solomon recovered a judgment for $6,000 for expenses and loss of society caused by injury to his wife in an automobile accident. It was contended that the defendant corporations were not liable for torts (wrongful acts) because those corporations were charitable institutions. The question was a new one in this court. The conclusions in the decisions in England, Canada and America are many and hopelessly different; the arguments by which they are reached are more so, and are confused by resort to the analogy of the liability or nonliability of governments and governmental agencies. On the one extreme it is held that a charitable institution is not liable for torts at all and, on the other, that it is liable for torts like any person. Between, this court finds it held that a charitable institution is liable to strangers, third persons they are usually called, but not to its own beneficiaries; also that it is liable to its employees, but not to its own beneficiaries; again, that it is liable only for negligently selecting incompetent servants, but not for the tort of a servant selected without negligence. Each party attempted to persuade this court that its side represented the trend of modern decision, but this court does not find that to be true; on the contrary, there are two parallel lines of cases, reaching back three quarters of a century or so, and coming down to the present time, sometimes varying in the same jurisdiction, according to the judgment, bias or prejudice of the court having the matter in hand, or the judge writing the opinion.

The fundamental question is one of expediency or of public policy—whether the preservation of charitable trust funds is more desirable than a right to compensation from such funds for an injury. This court thinks it is. Few things are more desirable or more beneficial to the public than charitable foundations, and certainly the right of some one to recover damages from a particular source is not one. Again, if it be said that a judgment in tort may be permitted against a trustee and enforced against the charitable trust fund, it cannot be denied that he might pay the damages out of that fund without judgment, which would put trust funds in a somewhat precarious position.

This court holds that a charitable trust fund may not be depleted by the tort of the trustee, but it does not logically follow that no judgment can be rendered against him. He may be liable, and yet the trust fund not. The charters of the defendant corporations were not in evidence. If they were, and it appeared that the corporations had no powers but as charitable trustess, this court would reverse the judgment that was rendered against them. But the assumption was that they had power to hold other property. If they had, there was no more reason to say that they were not liable for torts than to say that a natural person is not because he has no property not exempt from execution. This court thinks that the judgment against these corporations was valid, but that no property which they hold in charitable trust can be taken under execution on it, and if and while they hold no property but in such trust this judgment cannot be collected of them. This court must so hold because it thinks that the true reasoning to be gathered from all the cases compels it.

Continuous Disability from Date of Accident

(Booth v. United States Fidelity & Guaranty Co. (N. J.), 130 Atl. R. 131)

The Supreme Court of New Jersey says that the question presented was whether the plaintiff was entitled to recover under a clause in an insurance policy which provided for full indemnity in case he should meet accidental injury, which "shall, independently and exclusively of all other causes, continuously and wholly disable and prevent the insured from the date of accident from performing any and every kind of duty pertaining to his occupation." He was a ship surveyor and inspector. May 19, 1924, he accidentally fell, was struck on head and chin, and was rendered insensible. On recovering his senses he had the apparent and superficial wounds and injuries dressed and went to his temporary residence. He immediately complained of dizziness, headache and blurred vision, and that his eyes "had gone bad on him." From the time of the accident his vision was impaired, he could read only one letter of a word at a time, and seemed unable to comprehend the whole word at once. He could not write with his usual facility. He suffered pains in the head. From May 19 to June 20, he went to his place of employment and endeavored to perform his duties for a part of each day, but was unable to remain for the usual period of time, and was obliged to remain away entirely for one day in each week. The quality of his work fell off from the date of the injury and grew progressively worse. June 20, he became very ill, was only semiconscious, and lost the use of his voice and of his right arm and right leg. June 23, he suffered a complete paralysis of the right side. June 30, he was operated on for decompression of the brain.

The defendant insisted that the plaintiff was not wholly disabled and prevented from performing any and every kind of duty from the date of the accident, because he went to his place of employment and apparently performed some of the duties of his occupation; that he was not wholly disabled and prevented from performing them until June 20, when he became paralyzed and was unable to get about at all. But, in view of the nature of the contract and the object sought, it is a fair and reasonable construction to hold that, where the injury is such that the results continue from the date of accident and wholly incapacitate the insured within such time as is required for the processes of nature to bring about such total disability, there is a continuous and total disability from the date of the accident. The fact that the plaintiff tried to work was not to be taken as conclusive evidence of his ability to do so, and he should not be penalized for honest efforts to keep going when nature demanded that he desist. Nor did the use of the word "prevent" mean that there should be a physical absence from the place of employment. The court takes the word in this connection to mean that the insured must be unfitted for his usual duties, and be hindered and impeded by his injury in performing them. Wherefore the court holds that the plaintiff was continuously and wholly disabled and prevented from the date of the accident from performing any and every kind of duty pertaining to his occupation.

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[2] Champlain's Voyages 2:49, 1878. Publications of the Prince Society. Translation by Charles Pomeroy Otis.

Talking About Injuries to Defendant's Attorney

(Gallagher v. S. Z. Schutte Lumber Co. (Mo.), 273 S. W. R. 213)

The Kansas City (Mo.) Court of Appeals, in reversing a judgment for $6,000 damages for personal injuries which was rendered in favor of the plaintiff, says that the plaintiff called as a witness the physician who had attended him, and, on redirect examination, the physician was asked certain questions for the asserted purpose of showing his interest, but which were objected to as constituting an attempt of the plaintiff to impeach his own witness. Among other questions, the physician was asked as to the attorney for the defendant having seen him about this case, and whether he had asked his patient's (the plaintiff's) consent before he disclosed facts to the defendant's attorney. In his argument to the jury, counsel for the plaintiff said that the attorney for the defendant "Gets up with a paper of some kind. 'Isn't it a fact, Dr. So and So, that it was not until after you came back from the x-ray room that Gallagher said anything about this old injury? A. Yes, sir; yes, sir. Isn't it a fact, so and so and so'—facts that he could have only known by some prior conference with the doctor." Again, the attorney said: "It is within the evidence. It was there, gentlemen, that the doctor told Mr. Welch [the defendant's attorney] these facts without the consent of his patient; armed Mr. Welch with a lot of suspicions and nothing else."

That this testimony was submitted in an effort to impeach the plaintiff's own witness was beyond question. It was an intimation that Mr. Welch had in some manner influenced the physician's testimony. There was nothing in the record to show what was the conversation between Mr. Welch and the physician, but it may be assumed that it was concerning the plaintiff's injuries. While it was improper for the physician to have talked about the plaintiff's injury to the defendant's attorney, this circumstance by itself was insufficient to afford ground for the plaintiff to impeach his own witness.

It was insisted that the physician unexpectedly proved to be a hostile witness and that the plaintiff was entrapped and surprised by his testimony, and had the legal right to cross-examine him. But the record was absolutely devoid of anything of that nature. It would seem that the surprise with which the plaintiff was confronted by the physician's testimony was merely that he had talked to the defendant's attorney before the trial. While this conduct of the physician was improper, and was a matter in connection with which, if the plaintiff had shown that he had been entrapped or surprised by some testimony of the physician, he undoubtedly would have had the right to cross-examine the witness in reference to the subject, yet a party cannot put a witness on the stand and ask him questions showing that he has been guilty of some improper conduct, without showing surprise or entrapment, for this would violate the well known rule that a party may not impeach his own witness, whom he vouches for when he places him on the witness stand. So this court thinks, taking the cross-examination of the physician at the trial, combined with the argument to the jury, that the trial court committed error against the defendant. While a certain amount of discretion is vested in the trial court in ruling on matters of this kind, it seems to this court that the trial court permitted counsel to go too far.

Malpractice in Removing Cyst from Eye Not Proved

(Cardinale v. Kemp et al. (Mo.), 274 S. W. R. 437)

The Supreme Court of Missouri, division no. 1, says that in this action for alleged malpractice, brought by a boy 4 years old by his next friend, the petition charged the sole negligent act of the defendants to consist of negligently cutting the eyeball of the plaintiff with a sharp instrument, while removing a cyst from his left eye, and thereby so injuring it as to cause it to shrink and to lose its sight. The theory of the trial court was that the evidence for the plaintiff did not make out a case for the jury, and therefore that court sustained the defendants' demurrer to the evidence, whereupon the plaintiff took an involuntary nonsuit, with leave to move to have it set aside. When the motion to set aside the nonsuit was made it was overruled, and the judgment overruling it is here affirmed.

The supreme court is of the opinion that whereas the record here showed that the adhesion of the eyelid to the eyeball and the scar on the latter was shown to be eight months after the operation had been performed on the lid, no expert could, with any degree of certainty or even probability, say that it was caused by a sharp pointed knife, a blunt instrument, or deep-seated infection, any one of which, all the evidence on the subject showed, could have caused it, which was the common sense of the situation.

Again, it is true, as contended by counsel for the defendants, that all expert testimony must be predicated on facts or conditions conceded to be true, or existing or assumed to be established by other testimony, and that necessity excludes the possibility of basing one opinion on another opinion. In this case there was no proof of any sort that there was a cut of the plaintiff's eyeball by the defendant. This fact could not probably be proved by an opinion. To assume it, without any proof, as the producing cause of the condition found, would be to have the experts find the facts and decide the case on guesswork.

The law is also well settled that a plaintiff cannot make out his case by building one inference on another. In order for this plaintiff to prevail on the theory of his counsel, it would have to be inferred that the scar found on the eyeball was caused by a cut, and the further inference that the defendants caused the cut, and still further that the cut caused the loss of the eye. This could not be done.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19-23. Dr. Olin West, 535 N. Dearborn Street, Chicago, Secretary.

American Association of Pathologists and Bacteriologists, Albany, New York, April 2-3. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.

American College of Physicians, Detroit, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

American Congress on Internal Medicine, Detroit-Ann Arbor, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

American Proctologic Society, Indianapolis, April 16-17. Dr. William A. Rolfe, 331 Beacon Street, Boston, Secretary.

American Society of Clinical Pathologists, Dallas, April 15-17. Dr. Ward T. Burdick, Metropolitan Building, Denver, Colo., Secretary.

Louisiana State Medical Society, Monroe, April 15-17. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.

New York, Medical Society of the State of, New York City, March 29-April 1. Dr. D. S. Dougherty, 17 W. 43d St., New York City, Sec'y.

Oregon State Medical Society, Portland, April 1-2. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.

South Carolina Medical Association, Sumter, April 6-8. Dr. E. A. Hines, Seneca, Secretary.

Tennessee State Medical Association, Memphis, April 13-15. Dr. J. F. Gallagher, Jackson Building, Nashville, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Electrotherapeutics and Radiology, New York

43: 439-498 (Dec.) 1925

Light: Its Spectral Components in Therapeutics. F. C. Balderrey, Perrysburg.—p. 439.
Comparison of Ultraviolet Component Radiation from Carbon and Mercury Arc Lamps and from Sun. W. W. Coblentz, Washington, D. C. —p. 445.
Nonsurgical Aids in Treatment of Surgical Patients. A. J. Ochsner, Chicago.—p. 449.
History of American Electrotherapeutic Association. G. B. Massey, Philadelphia.—p. 451.
Phototherapy in Treating Hay-Fever. J. L. Myers, Kansas City, Mo. —p. 455.

American Journal of Medical Sciences, Philadelphia

170: 781-936 (Dec.) 1925

*Nature and Mode of Regulation of Glomerular Function. A. N. Richards, Philadelphia.—p. 781.
Human Constitution. III. Physical Types in Relation to Toxemias of Pregnancy. G. Draper, New York.—p. 803.
*Diagnosis of Subphrenic Abscess. R. Dexter, Cleveland.—p. 810.
*Generalized Tuberculous Adenitis: Case. L. H. Criep and F. C. Narr, Kansas City, Mo.—p. 822.
*Spontaneous Rupture of Heart. E. B. Krumbhaar and C. Crowell, Philadelphia.—p. 828.
*Relation of Morphology to Prognosis of Aortic Syphilis. W. W. G. Maclachlan, Pittsburgh.—p. 856.
Neurologic Mechanism of Angina Pectoris: Relation to Surgical Therapy. W. Penfield, New York.—p. 864.
*Lipiodol in Neurosurgery. A. S. Maclaire, New York.—p. 874.
*Acute Typhoid Cholecystitis Forty-One Years After Original Infection. L. A. Pomeroy and J. K. Shen, Cleveland.—p. 881.
*Effect of Roentgenotherapy on Human Heart. E. S. Emery, Jr., and B. Gordon, Boston.—p. 884.
Quantitative Determination of Intestinal Putrefaction. C. P. Sherwin, New York.—p. 888.
*(Left) Shoulder Pain of Phrenic Origin; Reflex Symptom in Chronic Appendicitis: Three Cases. I. Gray, Brooklyn.—p. 894.

Glomerular Function.—Richards says that evidence now exists on which to base belief that glomerular pressure and hence glomerular filtration is regulated not only by the gross circulatory events that have long been recognized, such as alterations in the arterial pressure, in the venous pressure and in the gross change of the renal vessels in relation to these, but also by fine adjustments of the caliber of the afferent and of the efferent vessel in relation to each other. The mode of adjustment is such as automatically to provide conditions suited to rid the blood of excess of any substances that dilate the renal arterioles and pass through the glomerular membranes. The more important normal urinary components very certainly possess these properties.

Subphrenic Abscess.—Six cases are reported by Dexter to emphasize the fact that subphrenic abscess is of insidious onset and that early diagnosis is infrequent. The most important and the most definite aid to the diagnosis is the roentgen-ray examination. Repeated examinations are of the utmost importance, not only in confirming the diagnosis but also in observing the course of the disease.

Tuberculous Adenitis.—A case of generalized tuberculous adenitis without any visceral tuberculosis is reported by Criep and Narr. The condition is getting progressively better and is of two years' standing. Clinically the condition may easily be confused with Hodgkin's disease, but biopsy and bacteriologic study will settle the diagnosis. A review of the literature discloses few such cases. There is no explanation as to how the glands may become involved in such a process without any visceral involvement.

Spontaneous Rupture of Heart.—Krumbhaar and Crowell present the results of a clinicopathologic study based on twenty-two unpublished cases of spontaneous rupture of the heart and 632 from the literature. Their own series of cases can be divided into the following five categories: (1) coronary sclerosis and thrombosis with myocardial fibrosis and necrosis, nine cases; (2) coronary sclerosis and thrombosis with myocardial fibrosis only, two cases; (3) coronary sclerosis only with myocardial fibrosis and necrosis, five cases; (4) coronary sclerosis only with myocardial fibrosis, two cases; (5) no evidence about the condition of the coronaries, four cases.

Prognosis of Aortic Syphilis.—That the prognosis of aortic syphilis is not always grave is shown by the three cases reported by Maclachlan. One of the patients has been under observation for almost nine years, the other for about seven years. The third patient died about two and a half years after he first consulted Maclachlan. In his case a well recognized aortic regurgitation with cardiac symptoms was associated with the aneurysm.

Lipiodol in Neurosurgery.—Maclaire's experience with lipiodol has been limited to three cases, one of which gave undoubted evidence of the irritative power of this substance. The intraspinal injury was definitely increased for a period of five months, which was the duration of the lipiodol encystment in the subarachnoid space.

Acute Typhoid Cholecystitis.—Pomeroy and Shen observed a patient operated on for acute cholecystitis without calculi. *Bacillus typhosus* was obtained in pure culture from the gallbladder. There was a definite history of typhoid forty-one years before operation, with no symptoms suggestive of gallbladder trouble in the interim. The stools were persistently negative for *B. typhosus*, while the organism was present in the discharge from the cholecystostomy sinus.

Effect of Roentgenotherapy on Heart.—A series of patients irradiated over the chest were studied by means of electrocardiograms and by clinical and pathologic examination for the purpose of determining any changes in the myocardium that could be attributed to the effects of roentgenotherapy. A series of other patients receiving irradiation over parts other than the chest were also studied. There was no definite evidence to suggest that roentgenotherapy in the dosage used was sufficient to cause any temporary or permanent changes in the myocardium that could be recognized by the methods used in this study.

Left Shoulder Pain in Chronic Appendicitis.—Three cases are reported by Gray in which pain in the left shoulder was associated with chronic appendicitis, acting reflexly through the phrenic nerve, and disappearing following appendectomy. The method of production of the pain is discussed.

American Review of Tuberculosis, Baltimore

7: 273-386 (Dec.) 1925

*Tuberculosis in Filipinos. G. R. Callender and M. W. Hall, Washington, D. C.—p. 273.
Gold-Sodium-Thiosulphate, Called Sanocrysin by Møllgaard. A. J. Gelarie and F. R. Greenbaum, Philadelphia.—p. 314.
Effect of Sanocrysin on Tubercle Bacillus in Vitro. H. C. Sweany and M. M. Wasick, Chicago.—p. 316.
Effect of Sanocrysin on Normal and Tuberculous Dogs. K. L. McCluskey and L. Eichelberger, Chicago.—p. 329.
Diagnosis and Management of Large Pleural Effusions Complicating Pulmonary Tuberculosis. H. Hennell, New York.—p. 344.
*Transmutation of Tubercle Bacilli and Paratubercle Bacilli. A. Calmette, Paris.—p. 355.
Origin of Tubercle Bacillus. S. J. Maher, Long Branch, N. J.—p. 365.
Peculiar Behavior of Certain Tubercle Bacilli. W. M. Stockwell, Hartford, Conn.—p. 371.

Tuberculosis in Filipinos.—A study is presented by Callender and Hall based on the annual reports of the Philippine General Hospital and on the incidence rates for the anatomic types of tuberculosis made from these reports. The incidence tables show a preponderance of chronic tuberculosis in a well tuberculized community, while the considerable numbers of cases of abdominal and lymph node tuberculosis indicate overexposure of the population to tuberculous material. A higher rate for abdominal tuberculosis is shown for Cebu than for Manila. A study of the incidence of the anatomic types of tuberculous lesions in 10,000 necropsies on Filipinos is also reported. The rather high rate for abdominal and intestinal tuberculosis indicates infection through the intestinal tract by tuberculous material from human sources, there being little opportunity for infection from animals. Filipinos have approximately two and a half times as much tuberculosis as Americans. The natives of the Philippines, with the possible exception of the uncivilized tribes, are highly tuberculized, and the high continuing mortality and morbidity are due to poor hygiene and inadequate sanitation. The trend of tuberculosis mortality in the Philippines is now apparently upward and, while some of this may be due to better diagnosis, the authors feel that faults of hygiene and sanitation must bear most of the blame for preventing the rates in this people from following the downward course of the rates of other civilized countries.

Transmutation of Tubercle Bacilli.—Calmette says that up to the present there has been no experimental fact which justifies the hypotheses that there exist in nature, or that it is possible to produce artificially, saprophytic varieties of Koch's bacillus which can be transformed into virulent tubercle bacilli. Nobody has yet succeeded in conferring on paratubercle bacilli, of whatever origin, tuberculous properties transmissible through series of cases. The only positive results reported in this connection show obvious errors due to superadded infections. Further, there has been no successful attempt to modify true tubercle bacilli by giving them the essential characters of paratubercle bacilli (cultivation at low temperature, rapid growth on glucose or glycerin mediums, absence of all tuberculogenic properties). The only result has been to show that it is possible to create a race of tubercle bacilli, by cultural devices, which will no longer produce tubercles in susceptible animals, but which still possess the property of secreting tuberculin and of serving as antigen. These bacilli remain toxic for tuberculous animals. They are not, therefore, paratubercle bacilli. The paratubercle bacilli cannot be used for producing immunity against active tuberculosis. It is incontestable that tubercle bacilli (bovine, human, avian) form a group of definitely specific micro-organisms. The paratubercle bacilli possess certain biochemical resemblances that link them to the tubercle bacilli, but the hypothesis that they have a common origin does not appear to have any foundation. Consequently, there is no reason for considering paratubercle bacilli, not definitely pathogenic, as offering any danger to man or to animals susceptible to tuberculosis. They appear to play no part in the spread of tuberculosis in the world at large.

Annals of Surgery, Philadelphia

62: 833-1102 (Dec.) 1925

*Cancer of Thyroid; Treatment. L. F. Craver, New York.—p. 833.
*Congenital Cysts and Fistulas of Neck. P. Klingenstein and R. Colp, New York.—p. 854.
*Compression of Spinal Cord by Tumor. W. J. Mixter, Boston.—p. 865.
Origin and Development of Blood Supply of Whole-Thickness Skin Grafts. J. S. Davis and H. F. Traut, Baltimore.—p. 871.
Roentgen Ray as Diagnostic Aid in Hemangioma. L. Dunn, Minneapolis.—p. 880.
Myositis Ossificans Circumscripta. A. Gruca, Lwow, Poland.—p. 883.
*Gastric Resection for Pyloric and Duodenal Ulcer. R. F. Carter, New York.—p. 920.
*Failure of Gastro-Enterostomy to Effect Decisive Reduction in Gastric Acidity. R. Lewisohn and R. G. Feldman, New York.—p. 925.
Infantile Pyloric Stenosis. W. F. Fowler, Rochester, Minn.—p. 940.
*Benign Tumors of Duodenum. A. M. Willis and M. Lasersohn, Richmond.—p. 952.
Pancreatic Lithiasis: Four Cases. H. R. Hartman, Rochester, Minn.—p. 956.
*Total and Polymorphonuclear Leukocyte Counts in Chronic Appendicitis. W. C. Menninger, Topeka, Kan., and H. G. Holder, San Diego, Calif. —p. 960.
*Technic for Removal of Hemorrhoids. L. A. Buie, Rochester, Minn. —p. 964.
Bilateral Duplication of Renal Pelves and Ureters. H. W. E. Walther, New Orleans.—p. 968.
Prehernial Lipoma. L. F. Watson, Chicago.—p. 971.
Value of Blood Transfusion in Surgery of Prostate. A. I. Dodson, Richmond, Va.—p. 974.

Results of Treatment of Thyroid Cancer.—A report is made by Craver on thirty-three cases of thyroid cancer in which operation was performed. Ten patients are now living, seven free from evidence of tumor for from two years and three months to seven years and eleven months. The other three living patients show definite improvement. The living patients were twelve years younger, on the average, when their treatment was begun, than those who died; and already they have lived three times as long after coming to the hospital than did those who died. On the basis of this study it would seem best to advise early complete removal of all nodular tumors of the thyroid. While this procedure does not guarantee that other similar tumors will not appear later in the remaining portions of the gland, it will discover many unsuspected carcinomas. If carcinoma is so discovered, prompt and thorough postoperative irradiation with roentgen ray or the radium pack should be used. If a clinical diagnosis of cancer of the thyroid can be made, operation should be avoided, and thorough irradiation, either by heavy roentgen-ray or external radium applications, or these combined with an efficient form of interstitial radium application, should be carried on.

Thyroglossal Cysts.—Forty-two cases of thyroglossal cysts and fistulas are reviewed by Klingenstein and Colp: thyroglossal cysts, thirteen; thyroglossal fistulas, twenty; a combination of cysts and fistula, nine. Sixteen cases have been classified as branchiogenic cysts of fistulas.

Compression of Spinal Cord by Tumor.—Ninety-one cases of spinal cord tumor are reviewed by Mixter. There were nineteen cases of intramedullary tumor, and the end-results were almost uniformly bad. There were thirty-five cases in which the tumor arose from structures outside the cord but inside the bones of the vertebral column. Of these, twenty-six were cured or definitely and permanently improved. There were twenty-eight tumors of the vertebral column, metastatic or primary. Five cases of intraspinal tuberculous abscess were classed as tumor suspects. There were sixteen in which no lesion was found at operation. Ninety-eight laminectomies were performed, with five operative deaths. A further analysis of the spinal tumors shows that in this class were practically all the successful cases. Of the thirty-five, ten were meningioma and eight neurofibroma; the rest were scattering. Twelve were symptomless; fourteen were definitely improved, many patients working. Only three have died of tumor, two of these having malignant leiomyomas metastatic from the uterus. In cases in this series in which examination of the cerebrospinal fluid was made, lumbar puncture was conclusive in about 80 per cent and doubtful in 20 per cent. In the 20 per cent, combined puncture was necessary to eliminate this element of doubt. In cases in which block is positive, Mixter always injects lipiodol above the tumor. If a positive localization can be made without the help of lipiodol, he prefers not to use it, as it remains indefinitely in the cerebrospinal space. No permanent ill effects have been reported from its use, though it is temporarily irritating, as shown by rise in temperature, headache, and increased cell count in the cerebrospinal fluid.

Resection of Stomach for Ulcer.—Carter resects the lesser sac of the stomach, including the pylorus, does a gastrojejunostomy by suturing the entire width of the stomach into the longitudinal opening in the distal half of the jejunal loop, and closes the anterior wall of the lesser sac by attachment of gastrohepatic omentum to the lesser curvature of the stomach and convex surface of the jejunum and gastrocolic omentum to the proximal and distal loop of the jejunum and greater curvature of the stomach, thereby fixing the jejunum in this position and maintaining the normal anatomic position of the stomach. Suture of the margin of the opening made in the colonic mesentery about the proximal and distal loop of the passing jejunum fixes the jejunum and closes the opening of the posterior wall of the lesser sac.

Cause of Failure of Gastro-Enterostomy.—Complete anacidity (absence of free hydrochloric acid) was observed by Lewisohn and Feldman in 88 per cent of cases of gastric ulcer treated by partial or subtotal gastrectomy between 1915 and 1920. During the same period, complete anacidity was observed in less than 3 per cent of the cases treated by gastro-enterostomy with or without excision of the ulcer. Pylorectomy does not effect an anacidity, and is followed by gastrojejunal ulcers in a considerable number of cases. Complete anacidity was established in eight cases requiring partial or subtotal gastrectomy for gastrojejunal or recurrent duodenal ulcer. These patients had suffered for years following the primary gastro-enterostomy. They have been perfectly well since the radical operation. In order to prevent the occurrence of gastrojejunal ulcers, the primary operation ought to establish a permanent anacidity. Partial or subtotal gastrectomy is the only method of operation that establishes permanent anacidity in a large percentage of the cases. Partial or subtotal gastrectomy should be the method of choice in the surgical treatment of gastric and duodenal ulcers.

Benign Tumors of Duodenum.—Willis and Lasersohn report two cases of adenoma of the duodenum occurring in adults. The chief complaint was pain in the upper abdomen. In one case the tumor was 1 inch distal to the pyloric sphincter. In the second case the tumor arose one-fourth inch above the orifice of the common duct, in which was lodged a small stone. Both patients recovered from the operation, although they were past 60.

Leukocyte Count in Chronic Appendicitis.—The leukocyte count in ninety-three cases of so-called (and so classified) chronic appendicitis was studied by Menninger and Holder. In acutely inflamed cases, there is a plus resistance index figure, which increases with the severity of the process. The data for chronic cases shows a minus resistance index figure, which, the authors' feel, further supports the principle that the total leukocyte count represents the body reaction and the polymorphonuclear count expresses the severity of the pathologic process. The ratio between these, as expressed by the resistance index, is a minus figure in cases of chronic pathologic changes associated with chronic symptoms clinically, but becomes a plus figure in cases of acute pathologic changes, associated with acute symptoms clinically. The figure continues to rise as the severity of the process increases.

Removal of Hemorrhoids.—Buie describes a suture method for removing hemorrhoids which is said to eliminate certain undesirable features often associated with this operation.

Colorado Medicine, Denver

23: 1-40 (Jan.) 1926

Clinical Manifestations of Tumors of Spinal Cord. H. W. Woltman, Rochester, Minn.—p. 5.
Function of Kidney. A. N. Richards, Philadelphia.—p. 11.
Value of Laboratory Tests in Diagnosis of Kidney Efficiency. F. M. Heller, Pueblo.—p. 14.
Subphrenic Abscess. W. Senger, Pueblo.—p. 28.

Indiana State Medical Association Journal, Ft. Wayne

18: 445-486 (Dec.) 1925

Nephritis, Hypertension and Arteriosclerosis. F. M. Allen, Morristown, N. J.—p. 445.
*Compression of Arteries with Curved Rubber-Covered Forceps in Treatment of Aneurysm. J. R. Eastman, Indianapolis.—p. 451.
Gallbladder Disease. H. O. Bruggman, Fort Wayne.—p. 453.
Peptic Ulcer. M. N. Hadley, Indianapolis.—p. 459.

Gradual Compression of Arterial Aneurysm.—Eastman reports a case of traumatic aneurysm of the femoral artery in which complete ligation or endo-aneurysmorrhaphy seemed fraught with too much danger and was not considered advisable. It was believed that intermittent partial compression of the femoral artery, with the view of forcing the establishment of sufficient collateral circulation to nourish the leg distal to the aneurysm, offered the best solution of the problem, as gangrene of the toe tips seemed to give warning against a more radical procedure. A curved clamp was made with a long ratchet bar, so that compression could be graduated accurately. The jaws of the clamp were covered with rubber tubing. Through an incision above the tumor on the inner side of the thigh, one jaw of the clamp was passed under the femoral artery proximal to the aneurysm, but the clamp was not closed even as far as the first notch of the ratchet bar for the reason that merely placing one jaw of the clamp under the artery narrowed the lumen slightly. After three days the clamp was closed to the first ratchet, following which the tumor decreased somewhat in size, but about three hours subsequent to institution of this slight compression the foot became cold; therefore, the clamp was released at the ratchet but not removed from the artery. Three days later this performance was repeated. However, after the clamp had been caught at the first ratchet, the foot did not turn cold. A few days later the clamp was tightened to the second ratchet, and after two days again released. During the next two weeks the clamp was tightened gradually to the last notch, and nothing of interest happened in the foot. The clamp was left in place for ten days, during which the condition of the toes improved, suggesting that an adequate collateral circulation was present. The tumor became hard and lost its pulsation and bruit; therefore the incision was reopened, the clamp removed and the two no. 2 chromic catgut sutures were applied above the aneurysm, after which the sac was opened and a large partially organized clot removed with gauze. The foot is now normal and there is no loss of function. The tumor practically has disappeared.

Journal of Comparative Psychology, Baltimore

5: 417-498 (Dec.) 1925

Experiments on Vision in Monkeys. I. Color Sense of Pig-Tailed Macaque (Nemestrinus Nemestrinus L.). J. A. Bierens de Haan, Amsterdam, Holland.—p. 417.
Self-Recording Maze. E. C. Tolman and L. A. Jeffress, Berkeley, Calif.—p. 455.
Reactions of Ant, Cremastogaster Lineolata (Say), to Heat. D. F. Miller and M. Gans, Columbus, Ohio.—p. 465.
Relation Between Maze Learning and Spontaneous Activity in Sheep. H. S. Liddell, Ithaca, N. Y.—p. 475.
Adaptation of Nystagmus to Repeated Caloric Stimulation in Rabbits. K. Dunlap, Baltimore.—p. 485.

Journal of Urology, Baltimore

14: 571-684 (Dec.) 1925

*Pyelographic Mediums. R. C. Graves, Boston.—p. 571.
Errors of Technic and Interpretation in Ureteropyelography. W. A. Frontz, Baltimore.—p. 579.
Urographic Studies of Ureters. W. E. Lower and G. W. Belcher, Cleveland.—p. 593.
Pyelographic Errors in Diagnosis of Renal Neoplasms. D. N. Eisendrath and I. S. Koll, Chicago.—p. 615.
Errors in Interpretation of Urographic Findings. W. F. Braasch, Rochester, Minn.—p. 631.
Leukoplakia of Bladder: Case. O. J. Wilhelmi, St. Louis.—p. 653.
Treatment of Gonorrheal Arthritis by Iodine Solution. T. C. Stellwagen, Philadelphia.—p. 661.
New Ureteral Dilators and Catheters. V. C. Pedersen, New York.—p. 671.

Pyelographic Mediums.—In Graves' opinion, 12 per cent sodium iodide is the pyelographic medium of choice. It lacks but one important quality, that of germicidal activity. Mercuric iodide, an antiseptic of high potency, can be combined in great dilution with 12 per cent sodium iodide without destroying its bactericidal value. Furthermore, the solution as a pyelographic medium remains essentially unchanged so far as its physical characteristics are concerned. A dilution of 1:3,000 mercuric iodide in 12 per cent sodium iodide (1 Gm. of mercuric iodide in 3,000 Gm. of 12 per cent sodium iodide) has a phenol coefficient of 0.033. In other words, it is comparable on this basis to from 3 to 4 per cent of phenol. It is not irritating to mucous surfaces, and after prolonged routine use Graves has not observed any ill effects or discomfort following its injection into either bladder or kidney pelvis, even in the presence of active inflammation.

Ohio State Medical Journal, Columbus

22: 17-96 (Jan. 1) 1926

Surgical Problems in Jaundice. S. Oliver, Cincinnati.—p. 21.
Subphrenic Abscess. R. Dexter, Cleveland.—p. 24.
*Biochemical Studies in Mental Disease. H. D. McIntyre, A. P. McIntyre and R. J. Norris, Cincinnati.—p. 28.
Relationship of Laryngologist to Public Speaker and Singer. S. H. Large, Cleveland.—p. 35.
Hemorrhages of Early Months of Pregnancy. W. D. Inglis, Columbus.—p. 39.
Modern Phase of Health Administration. A. W. Freeman, Baltimore.—p. 41.

Biochemical Studies in Mental Disease.—Evidence is presented by the McIntyres and Norris that manic-depressive, schizoid and confusional reactions may in their early stages be accompanied by signs of toxemia; viz., leukocytosis, acidosis, fever and nitrogen retention. Treatment directed toward the elimination of the toxemia is frequently effective in bringing about a mental recovery. The toxins, acid or otherwise, so affect the hydrated colloids of the nerve cells as to bring about a cracking of the emulsion of which the nerve cell is composed. Treatment, to be effective, must take place before this irreversible cracking point is reached.

Public Health Journal, Toronto

16: 551 600 (Dec.) 1925

Hieronymus Fracastorius: Three Books on Contagion, Contagious Diseases and Their Treatment. W. R. Riddell —p 551.
Various Pathologic Conditions Which Affect Progress of Cardiac Cases G. Smith —p 563
Early Autolytic and Bacterial Transformation of Fish Muscle Proteins. G B Reed —p 568
Standardizing the Provincial Death Rates A. C. Jost —p 578.

Rhode Island Medical Journal, Providence

9: 1 16 (Jan) 1926

Management of Heart in Hypertensive Disease J. P O'Hare, Boston. —p 1
Heliotherapy L L Albert, Central Falls —p. 3

Surgery, Gynecology and Obstetrics, Chicago

42: 1 160 (Jan) 1926

*Bell Beuttner Operation with Ovarian Conservation or Grafting. W. B Bell, Liverpool, Eng —p 1
*Chronic Pelvic Infections A H. Curtis, Chicago —p 6
Hepatic Function in Health and Disease C H Mayo, Rochester, Minn —p 9
*Carcinoma of Male Breast E S Judd and H D Morse, Rochester, Minn —p 15
Tumors of Urachus: Seven Cases F W Rankin, Lexington, Ky, and B Parker, Rochester, Minn —p 19.
*Section of Left Vagus for Relief of Asthma R. A Kern, Philadelphia. —p. 28
*Ectopic Ureteral Openings E F Kilbane, New York —p 32
*Extra Uterine Pregnancy at Full Term J. M H Rowland, Baltimore. —p 50
Experimental Nephrotomies W J. Carson, Baltimore —p 53
*Spontaneous Rupture of Esophagus T H Williams and W Boyd, Winnipeg, Can —p 57
*Bacteriology of Thyroid in Goiter. A Cantero, Rochester, Minn —p 61.
Common Misconceptions in Radiotherapy A U Desjardins, Rochester, Minn —p 64
*Experimental Study of Rupture of Uterus J E Lackner, Chicago. —p 69.
Teaching and Practice of Obstetrics W G Lee, Chicago —p 74
Roentgenographic Diagnosis in Gynecology Pneumoperitoneum I. F. Stein, Chicago —p 83.
Dermatolysis Case. H Goodman and E F Traub, New York —p 88.
Question of Gastro Enterostomy in Duodenal Ulcers G Woolsey, New York —p 90
Fracture of Both Bones of Forearm: Two Hundred Cases. C H. Bagley, Baltimore.—p 95
Ruptured Cornual Pregnancy: Case. J L Grove, Newton, Kan.—p 102.
Surgical Treatment of Gastric and Duodenal Ulcer. J. Douglass, New York.—p 106
*Resection of Long Bones for Chronic Osteomyelitis G I. Bauman and H E. Campbell, Cleveland —p 114
Congenital Cystic Tumor of Neurenteric Canal. G H Hansmann, Iowa City —p 124
Problem of Bringing Forward Retracted Upper Lip and Nose V. P. Blair, St Louis —p 128.
Fractures of Os Calcis Fifteen Cases L I Condit, Detroit.—p. 133
*New Blood Transfusion Apparatus D McLelland, Vancouver, B. C. —p 135.

Results of Bell-Beuttner Operation.—Bell reports on 108 cases in which the Bell-Beuttner operation was performed together with ovarian grafting. The mortality was 2.6 per cent of sixty-six cases available for determination of end-results; menstruation occurred in forty-five; the menopause was averted in fifty-one. Of nine cases analyzed in which the ovary remained in situ, menstruation occurred in eight cases and the menopause in one case

Chronic Pelvic Infections.—Curtis points out the fallacy of overemphasis of cervical infections as foci for arthritis and other serious systemic disturbances. Leukorrhea may be cured by removal or destruction of the diseased cervix; also, a considerable number of patients may be thus relieved of sterility. But systemic infection from chronic cervicitis appears to be unusual. From bacteriologic study, combined with five years' conservative clinical experience, Curtis concludes that operation on fallopian tubes for eradication of gonorrheal infection is not often indicated. The infection disappears spontaneously if the patient is isolated from the source of her disease. Expectant care eventuated in clinical recovery of the great majority of patients and is beneficial to those who must ultimately obtain operative relief. Surgery should usually be long delayed and reserved chiefly for sequelae, such as adhesions, menstrual disturbances and sterility.

Carcinoma of Male Breast.—Judd and Morse analyze seventeen cases of carcinoma of the male breast. In four there was a family history of carcinoma. The duration of the disease varied from nine months to eighteen years. A radical operation was performed in each case. One death occurred, making an operative mortality of 5.8 per cent. In fourteen of the seventeen patients the primary operation was performed; in three, the radical procedure was for recurrence fifteen, eighteen and twenty-four months, respectively, after simple amputation done elsewhere. One patient died after operation from erysipelas Seven died from metastasic lesions demonstrated in necropsies. The greatest postoperative duration of life was six years and the least seven months, the average being 19.5 months. One patient died following nephrectomy for hypernephroma four years after the radical amputation of the breast for carcinoma, and at necropsy no evidence of metastasis from the original tumor was found. Four patients are alive and show no evidence of any recurrence six months, sixteen months, three years and six years, respectively, after operation Eleven patients received roentgen-ray treatments postoperatively, but this treatment does not seem to have arrested the progress of the disease to any appreciable extent in this series of cases. Judd and Morse urge that tumors in the male breast should receive immediate radical operative treatment Good results are obtainable only by radical operation before glandular or other metastatic lesions occur.

Vagus Section in Asthma.—The history of a patient is reported by Kern in whom as a last resort the left vagus was cut for the relief of asthma. The operation was followed by only slight improvement. No harmful effects on heart action were observed. Bronchoscopic examination showed diminished but not lost bronchial motility on the affected side.

Ectopic Ureteral Openings.—Kilbane reviews ninety-eight cases recorded in the literature and reports two additional cases. In both cases the kidney had two pelves and the supernumerary ureter opened near the external urinary meatus. Both patients were women.

Extra-Uterine Pregnancy at Full Term.—The fetus in Rowland's case was lying behind the uterus with the head in the pelvis. The placenta was quadrilateral and was attached chiefly to the posterior surface of the broad ligaments and the posterior surface of the uterus. There were some small extensions of the placenta to the right side attached to the mesentery and folds of the small intestine by light adhesions. The child was delivered alive, a well developed, normal child, weighing 8½ pounds (3.8 Kg.). A hysterectomy was also done. The patient made a good recovery. The baby is living and well, nearly 5 years of age.

Spontaneous Rupture of Esophagus.—In the case cited by Williams and Boyd, death occurred a little less than twenty hours after vomiting ushered in the attack. The patient was an alcoholic Careful microscopic examination of the specimen and experimental work lead the authors to the conclusion that this spontaneous rupture is preceded by some inflammatory process which weakens the esophageal wall.

Relation of Streptococcus to Goiter.—From the results of his bacteriologic study and experimentation, it seems to Cantero that localization of certain organisms, especially those belonging to the streptococcal group, in the thyroid gland, may be an important factor in the pathogenesis of goiter.

Experimental Rupture of Uterus.—Lackner endeavored to determine experimentally if the type of incision in the uterus and the type of suture material played an etiologic rôle in rupture of the uterus. Goats were used in these experiments. The results obtained lead to a negative answer for both problems studied.

Treatment of Chronic Osteomyelitis.—Bauman and Campbell are convinced that in properly selected cases of chronic osteomyelitis, subperiosteal resection of the diaphysis of long bones, coupled with subsequent bone graft, if necessary, offers a better chance of cure and restoration of normal function than the less radical procedures.

New Blood Transfusion Apparatus.—McLellan describes an apparatus for the direct transfusion of blood, which permits of the introduction of citrate and saline solution into the blood stream as it passes through the apparatus.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Australian Journal of Experimental Biology and Medical Science, Adelaide

2: 167-188 (Dec. 16) 1925

*Mitochondria of Opalina: Behavior During Life Cycle. E. S. Horning. —p. 167.
*Influence of Tethelin on Growth and Longevity. T. B. Robertson and L. A. Ray.—p. 173.

Nature of Mitochondria.—The observations made by Horning are said to afford strong evidence for the view that mitochondria are persistent, self-producing bodies and not metabolic products of the cytoplasm. Evidence is given that synthesis of vegetative granules (storage products) may take place at the surface of the mitochondria.

Effect of Tethelin on Growth.—Experiments made by Robertson and Ray gave evidence that preadolescent hypodermic administration of tethelin to mice, in dosage of 4 mg. daily, causes initial retardation, followed by compensatory acceleration of growth, which eventually leads to a considerable overgrowth of the treated animals and which attains its maximum at about 500 days of age. The treated animals then exceed the normals both in size and in weight. The average life duration of the treated animals exceeded that of the controls by ninety days.

British Journal of Medical Psychology, London

5: 161-256 (Dec.) 1925

Conception of Sexuality. I. J. A. Hadfield.—p. 161.
Id. II. J. Glover.—p. 175.
Id. III. A. F. Shand.—p. 189.
Id. IV. Glover's Reply.—p. 196.
Id. V. Hadfield's Reply.—p. 208.
*Suggestion Toward Theory of Manic-Depressive Insanity. W. McDougall. —p. 212.

Theory of Manic-Depressive Insanity.—The suggestion made by McDougall toward a theory of manic-depressive insanity is that the disorder results from the upsetting or disturbance of the normal balance and cooperation of these two impulses within the sentiment of self-regard.

British Medical Journal, London

2: 1207-1252 (Dec. 26) 1925

Backache in Women. H. R. Andrews.—p. 1207.
*Thyroid and Manganese Treatment: Influence on Abnormal Blood Pressures. H. W. Nott.—p. 1209.
*Catarrho-Pyogenic and Tuberculous Infections of Lower Respiratory Tract. H. B. Shaw.—p. 1212.
*Effects of Pancreas Preparations by Mouth on Carbohydrate Metabolism. P. J. Cammidge.—p. 1216.
*Ultraviolet Rays in Dermatologic Practice. W. F. Castle.—p. 1218.
Treatment of Uterine Fibroids by Myomectomy. P. L. Giuseppi.—p. 1220.
*Endoscopy of Uterus. H. F. Seymour.—p. 1220.
*Treatment of Paroxysmal Stage of Whooping Cough. A. B. Williamson. —p. 1222.
Rectal Anesthesia. W. I. de C. Wheeler.—p. 1223.
Pregnancy Complicated by Necrotic Fibroids. M. Rawlins.—p. 1223.
Pulmonary Tuberculosis Commencing at Seventy-Seven. A. P. Ford.—p. 1223.
Temporary Blindness After Concussion. J. Fanning.—p. 1224.
Tabes Dorsalis in Surgical Practice. R. W. Jones.—p. 1224.
Tuberculous Disease of Tonsil. J. L. C. Doyle.—p. 1224.
Pale Babies and Deep Perambulators. Doreen and J. Nixon.—p. 1224.

Effect of Potassium Permanganate on Blood Pressure.—Nott reports his observations on the effect on blood pressure of rectal injection of 1 pint (475 cc.) of a solution of 1 grain (0.065 Gm.) of pure potassium permanganate freshly dissolved in 1½ pints (700 cc.) of warm water daily, from ten to fifteen minutes after defecation, together with 1 grain of thyroid extract, twice daily, in cases of hyperthyroidism. The greater number of cases have responded very rapidly, high blood pressures having been reduced to much safer levels, and low blood pressures raised to more normal levels, in from a week to fourteen days. This medication may also be given by mouth, although it is said to be not as effective as rectal injection. The best results have come from a freshly made dose containing one-eighth grain (8 mg.) of potassium permanganate, combined with from one-half to 1 grain (0.03 to 0.065 Gm.) of thyroid extract.

Catarrhopyogenic Infections and Tuberculosis of Lung.—Shaw points out that catarrhopyogenic organisms can produce at the bedside and in the postmortem room certain conditions that are identical with those wrongly alleged to be produced by the tubercle bacillus. The tubercle bacillus is not always able to be demonstrated in these lesions. He holds that it is wrong to assume that because a patient presents tubercle bacilli in the sputum his lungs are infected by the tubercle bacillus alone—they may be infected by other organisms as well. Catarrhopyogenic organisms may begin to exert their influences on the lung before or as early as the tubercle bacillus. This has led to confusion in nomenclature, a confusion which cannot be ended unless it is recognized that the term "pulmonary tuberculosis" is too inclusive. Shaw thinks it would be better to use this term to denote the condition of diffuse miliary tuberculosis of the lungs and confluent tuberculous pneumonia, and revert to the use of the term "consumption" or "phthisis pulmonum"; but the latter term should be elaborated and the condition of the lung spoken of as "simple consumption" or "simple phthisis pulmonum" if tubercle bacilli cannot be recovered from the sputum, and "tuberculoconsumption" or "tuberculophthisis pulmonum" when it is desired to indicate that cases of simple consumption have become complicated by the presence of tubercle bacilli in the sputum.

Effect of Pancreas Preparations by Mouth on Carbohydrate Metabolism.—It is probable, says Cammidge, that fresh pancreas and active pancreas preparations given by mouth will improve carbohydrate metabolism in some forms of pancreatic diabetes as well as in the nonpancreatic varieties, under suitable conditions; but examinations of the feces from a very large number of diabetic patients have shown that an excess of the external secretion of the pancreas is much more commonly encountered than a deficiency, more especially in young persons; and in the earlier stages of the disease, there still remains a very considerable proportion in which no benefit can be expected, at least as the treatment is at present carried out.

Ultraviolet Rays in Dermatologic Practice.—The mercury vapor or the carbon arc lamp has been used successfully by Castle in the treatment of cases of impetigo, sycosis, boils and furunculosis, carbuncles, septic wounds, multiple subcutaneous abscesses of infants, alopecia areata, psoriasis, seborrhea, acne vulgaris, lupus, the tuberculids and chilblains.

Endoscopy of Uterus.—Seymour has devised a hysteroscope made on the bronchoscope principle. The instrument and the method of using it are described.

Treatment of Paroxysmal Stage of Whooping Cough.—Twenty cases of whooping cough in the paroxysmal stage were treated by Williamson with tincture of drosera rotundifolia and compared with controls treated with tincture of belladonna or without any antispasmodic. There was no evidence whatever to show that tincture of drosera is a specific in the treatment of these cases. On the contrary, its therapeutic action appears to be negligible. In doses exceeding 3 minims (0.2 cc.), three times daily, of the 10 per cent tincture it is an intestinal irritant and is liable to set up an enteritis, which, in weakly bronchopneumonic cases, may prove fatal.

Glasgow Medical Journal

22: 297-348 (Dec.) 1925

*Significance of Guanidines in Animal Body. N. Paton.—p. 297.
*Plus-Potentially Sick of Race. W. W. Graves.—p. 315.
Wry Neck or Torticollis. W. Rankin.—p. 323.
Procedure to Fill in Medium Sized Gap in Nostril. A. MacLennan. —p. 326.

Significance of Guanidines.—It seems to Paton that the free guanidines have an action in determining muscle tone, possibly by their influences on the endings of the sympathetic nerves; that they are produced in the liver from the ch of lecithin, and that their formation may be control the condition of the muscles, as the formation of sugar is controlled; that their action on the muscles is governed by the internal secretion of the parathyroids, which regulates their change into the inert creatin, and that probably the outflow of the secretion from the parathyroids is called forth by the condition of the muscles.

Scapular Types and Heredity.—Graves sees in scapular types easily accessible inherited features, readily recognizable by inspection and palpation; scapular classification with the age incidence principle represents new and dependable approaches to the problems of human heredity, morbidity, longevity and adaptability.

Indian Medical Record, Calcutta

45: 369-400 (Dec.) 1925

Comparative Result of Wassermann and Sachs Georgi Reaction for Syphilis. R. Sahib and S. C. Dutt.—p. 369.
Control of Venereal Diseases in Calcutta. S. Sinha.—p. 370.
Immunity. A. Roy.—p. 372.
Transmigration Theory Refuted Medically. M. S. N. Ahmadi.—p. 376.

Journal of Oriental Medicine, Dairen, So. Manchuria

4: 1-14 (Nov.) 1925

Amebocytes of Lumbricoids in Active and Quiescent State. J. Murakami.—p. 1.
Wieland's Dehydration Theory. K. Tanaka.—p. 4.
Pathologic Anatomy of Recurrent Fever, Especially Orchitis. M. Imai.—p. 5.
Investigations of Chinese Drug, MA Huang Ken (Root of Ephedra vulgaris). M. Fuji.—p. 6.
Treatment of Narcotic Poisoning. F. Shiratori.—p. 7.
Whooping Cough Pneumonia. Three Pathologic Changes in Lung Following Intravenous Injection of Endotoxin of Bacillus of Bordet-Gengou. Roentgenogram of Human Lung Seat of Whooping Cough Pneumonia. T. Hayakawa.—p. 8.
Animal Parasites of Vicinity of Mukden. S. Yano, T. Shimizu, S. Shirai and T. Kaneko.—p. 9.
Influence of Anti-Thymo Immune Serum on Blood Findings. T. Fushiki.—p. 10.
Increasing Cell Respiration by Means of Salts of Metals. K. Tanaka.—p. 11.

Kenya Medical Journal, Nairobi, East Africa

2: 245-274 (Dec.) 1925

Analysis of Epidemic of Bacillary Dysentery. New Therapy. A. J. Boase.—p. 245.
Trypanosomiasis Census of Populations on Miriu River, Central and South Kavirondo Districts, Nyanza Province. J. O. Beven.—p. 251.
Provision of Hospital Accommodation Particularly for Infectious Diseases. F. J. C. Johnstone.—p. 254.
Therapeutic Properties of Stovarsol. C. Levaditi.—p. 264.
Death Following Administration of Carbon Tetrachloride. C. V. Braimbridge.—p. 267.
Epidemic of Amebic Hepatitis. N. B. Peacock.—p. 269.

Use of Castor Oil in Treatment of Bacillary Dysentery.—Boase sets forth the greater value of castor oil, administered in repeated small doses, over magnesium sulphate in the treatment of bacillary dysentery. In the epidemic reviewed by Boase all dysenteric patients were allowed full diet consisting of cooked bananas or sweet potatoes, tea, soup, with meat when available, sugar cane, and milk when the supply would meet the demand. No ill effects were noticed from this innovation.

Lancet, London

2: 1317-1368 (Dec. 26) 1925

*Efficiency of Heart: Measurement. Y. Henderson.—p. 1317.
Clinical Study of Dick Test. A. Joe.—p. 1321.
*Dick Test at Fever Hospital. F. A. E. Silcock.—p. 1324.
Problems Connected with Dick Test. R. A. O'Brien.—p. 1327.
*Hepatic Aspect of Epidemic Encephalitis. E. O'Flynn and M. Critchley.—p. 1329.
Avoidance of Pain After Tonsillectomy. R. S. Stevenson.—p. 1332.

Measurement of Heart Efficiency.—The activity of the heart and the volume of the blood stream are correlated by Henderson quantitatively with the size, vigor and gaseous exchange of men and animals during rest and muscular work. The principles underlying this correlation are formulated. The volume of the blood stream through the lungs is determined from the rate of absorption of ethyl iodide vapor. This method is said to afford an efficient and clinically practicable means of measuring the circulation, not only in normal persons, and in those of athletic and of sedentary habit, but also in patients with moderate cardiac impairment.

Dick Test in Scarlet Fever.—Of forty-eight cases of scarlet fever tested by Silcock from the first to the fifth day of the disease, 68.8 per cent gave a positive reaction. The number of such reactions gradually diminished with the increasing duration of the disease. The majority of cases (88.4 per cent) gave a negative reaction on and after the tenth day.

Hepatic Aspect of Epidemic Encephalitis.—O'Flynn and Critchley have been unable to find any clinical, histologic or biochemical evidence to suggest an hepatic involvement after epidemic encephalitis. The amount of sugar in the resting blood, however, tends to lie at a slightly higher level than normal. It is suggested that this hyperglycemia is the result of sympathetic dysfunction.

Medical Journal of Australia, Sydney

2: 691-714 (Dec. 19) 1925

Association of Medical Profession with State in Policy of Preventive Medicine. S. S. Argyle.—p. 691.
*Dysentery in Mental Hospitals: Types of Organisms Involved. E. T. Hilliard.—p. 695.
Administration of Ether in Operations on Lung. M. Lidwill.—p. 698.
*Tests with Tetrachlorethylene: New Anthelmintic. S. M. Lambert.—p. 699.

2: 715-736 (Dec. 26) 1925

Gonorrhea in Natives of New Guinea. W. L. Calov and H. Weir.—p. 720.
Acute Miliary Tuberculosis. Case. A. D. Morgan.—p. 724.

Dysentery in Mental Disease Hospitals.—The serums of thirty dysentery convalescents in a mental hospital were examined bacteriologically by Hilliard. The Flexner bacillus was found in ten patients, the Flexner Y bacillus in fourteen patients and the Shiga bacillus in six patients. A high degree of correlation existed between the serum reactions and bowel culture findings and the clinical symptoms of the disease.

Tetrachlorethylene as Anthelmintic.—Lambert's experience with this new anthelmintic failed to show any apparent reason for changing from the use of carbon tetrachloride to tetrachlorethylene. There is no greater drug efficiency, no fewer symptoms and no advantage in taste or odor.

Sei-i-Kwai Medical Journal, Tokyo, Japan

49: 1-6 (Dec.) 1925

Effect of Intravenous Injection of Kaolin. Y. Yasaki.—p. 1.
Relations Between Antigen and Antibody in Precipitin Reaction. M. Nishro.—p. 5.

South African Medical Record, Cape Town

23: 521-544 (Dec. 12) 1925

Experimental Cancer Research During Century: Its Clinical Application. H. P. Bayon.—p. 522.
Otologic Aspect of Diagnosis of Intracranial Tumors. F. F. Petersen.—p. 536.

23: 545-568 (Dec. 26) 1925

Diagnosis of Intracranial Tumors. J. D. M. Claassens.—p. 546.
Miners' Phthisis. E. H. Kettle.—p. 553.
Heliotherapy. S. F. Silberbauer.—p. 557.
*Case of Full Term Extra-Uterine Fetus. L. Hertzenberg.—p. 560.

Full Term Extra-Uterine Pregnancy.—Hertzenberg records a case of ruptured extra-uterine pregnancy, in which the ovum survived and continued to live in the abdominal cavity up to full term, when spurious labor set in, with death of the fetus. The woman was operated on and made an excellent recovery. The placenta was attached to the right broad ligament and was adherent to all surrounding structures.

Tubercle, London

7: 161-208 (Jan.) 1926

*Chronic Localized Tuberculosis: Evidence of Phenomenon of Koch. W. T. Munro and J. W. Winchester.—p. 161.

Effect of Diaplyte Vaccine in Chronic Localized Tuberculosis.—Munro and Winchester conclude that Dreyer's diaplyte vaccine, which can give no local reaction, and therefore produces no Pirquet reaction, and thus no phenomenon of Koch, cannot have any influence on chronic localized tuberculosis. In a series of cases at Glenlomond Sanatorium, it has been shown to be without effect either on the physical signs of disease or on the degree of skin sensitiveness to tuberculin.

Annales des Maladies Vénériennes, Paris

20: 897-960 (Dec.) 1925

*The p_H of the Cerebrospinal Fluid in Syphilis. M. M. Israelson and A. S. Krizman.—p. 897.
Extragenital Location of Chancres. P. Noel.—p. 911.
Masked Congenital Syphilis. J. Bobrie.—p. 917.

Hydrogen Ion Concentration in Cerebrospinal Fluid of Syphilitics.—Israelson and Krizman's research was made on the cerebrospinal fluid of 136 syphilitic patients; of fifteen with nonsyphilitic diseases, and of five healthy subjects. With a p_H of 7.7, the serodiagnosis of syphilis was positive in 9.7 per cent; with p_H of 7.6, in 55 per cent; with p_H of 7.5, in 90 per cent; with p_H of 7.4 in 100 per cent. In five cases of general paresis the p_H of the cerebrospinal fluid was 7.4.

Bulletin de l'Académie de Médecine, Paris

94: 1283-1360 (Dec. 29) 1925

Epidemics in France in 1923. H. Vallée.—p. 1288.
*Origin of the Adams-Stokes Syndrome. E. Géraudel.—p. 1297.
Diagnosis of Arthritis of the Hip Joint. F. Calot.—p. 1302.
*Prognosis of Gastric Cancer. V. Pauchet and Hirchberg.—p. 1304.
Survey of the Work of the Académie in 1925. G. Barrier.—p. 1309.

Pathogenesis of Adams-Stokes Syndrome.—Géraudel is convinced that the bundle of His is not responsible for the Adams-Stokes syndrome. This seems to be confirmed by numerous electrocardiograms. He reports a typical case of the paroxysmal form in a man, aged 56. At necropsy, the bundle of His as well as the whole impulse-conducting apparatus appeared absolutely intact. There was pronounced stenosis of the artery irrigating this apparatus. The hampered circulation in the artery must have impaired the functioning of the whole conducting apparatus, thus retarding the rhythm of the ventricle. No changes were found in the artery of the auricular node. This explains why the rhythm of the auricle had remained normal, with a disturbed ventricular rhythm. Death was apparently due to a prolonged spasm shutting off the blood from the conducting apparatus, and consecutive arrest of contraction of the ventricle. If the impaired circulation in the artery of the conducting apparatus is caused by a permanent lesion, no treatment will be of avail. The disturbance of the rhythm is transient if the stenosis is due merely to vasomotor changes, and it may be possible to influence these.

Prognosis of Operations for Gastric Cancer.—Of 100 operative cases of cancer, sixty were in men. Of thirty-nine inoperable cases, thirty-four were in men and only five in women. In twenty-one cancer cases with hydrochloric acid still present in the gastric juice, death after operation occurred in two, recurrences within the first two years in two. Of fifty cases of cancer with absence of hydrochloric acid, death after operation occurred in twenty-two and early recurrences in six. The prognosis both at the time and later is thus graver in the anachlorhydria cases. Pauchet and Hirchberg add that in these cases an operation is more likely to be successful in the proliferating form than in the infiltrative.

Bulletin de l'Acad. Royale de Médecine, Brussels

5: 275-318, 1925

*Outcome After Early Mobilization Following Wounds of Joints. C. Willems.—p. 284.
*Anesthetics and the Electrocardiogram. Henrijean and R. Waucomont.—p. 300.

Active Mobilization from the First in Treatment of Joint Injuries.—Willems has been reexamining a number of patients treated by his method seven or eight years ago, and he here describes the ultimate results in fifteen cases of wounds of the knee and five of the elbow. Most of them were shell wounds, and there had been purulent arthritis in five. In this latter group numerous osteophytes have developed, but they do not hamper function, as none grew in or toward the interline. The musculature is remarkable, he says, in these as well as in all the other cases. His principle of systematic active mobilization from the start has been repeatedly mentioned in these columns, as, for instance, Nov. 13, 1920, p. 1370. This recent study of his older cases demonstrates, he says, that the method has realized all that it promised.

Influence of Anesthetics on the Electrocardiogram.—Chloroform and chloral modify the electrocardiogram (dogs), inducing block and appearance of a nodal rhythm. With ether, the sinusal rhythm is maintained throughout. Artificial respiration, with chloroform, helps to maintain the sinusal rhythm much longer. The electrocardiogram can thus be influenced by the respiration.

Presse Médicale, Paris

33: 1713-1728 (Dec. 30) 1925

Inaugural Lecture on Otorhinolaryngology. Canuyt.—p. 1713.
Postural Reflexes and Attitude Reflexes. C. Foix and A. Thévenard.—p. 1714.
The Meltzer-Lyon Gallbladder Function Test. M. Einhorn.—p. 1716.
*Cancer of the Breast. C. Chambacher and W. Rieder.—p. 1718.
*Experimental Epileptic Seizures. L. Jelenkiewicz.—p. 1722.
Import for Biology of Differences in Atmospheric Electric Tension. Pech.—p. 1723.

Deep Roentgenotherapy of Cancer of the Breast.—Chambacher and Rieder obtained surprising results with roentgen rays in treatment of four scirrhous mammary cancers. In two instances the tumor healed after two sittings, given at three and five months' intervals. The recovery has persisted up to three and two years. In two advanced cases with ulcerations and extensive infiltration, apparent healing occurred two months after a single exposure. The pain disappeared completely and the general condition seemed to be excellent. The cure has persisted for eight months in both cases. In the nonscirrhous type of cancer, the roentgen rays proved successful when applied in the early stage. In their fourteen cases one or more series of roentgen-ray exposures induced recovery, still persisting from one to four years. No metastasis from a cancer treated early with the roentgen rays was observed. Deep rays, at the maximal dose tolerated by the skin, should be used. In certain cases it may be necessary to complete the treatment by suppressing the functioning of the ovary by roentgen-ray castration. The roentgen ray or radium or both are considered the method of choice in treatment of cancer of the breast.

Induced Epileptic Seizure.—Jelenkiewicz induced accidentally an epileptic seizure in a nonepileptic woman under treatment for ulcer of the stomach. She had been given 10 cc. of 10 per cent solution of ammonium chloride by the vein, as she was convalescing under Sippy treatment. At the end of the injection suddenly appeared tonic contractions of the limbs and loss of consciousness, followed by clonic contractions. Analogous seizures were induced in rabbits with intravenous injections of ammonium salts. The ammonium, introduced into the general circulation, reaches the nervous system without passing through the liver, where otherwise the ammonium ions are transformed into urea.

34: 1-16 (Jan. 2) 1926

*The Etiology of Tetany. E. Lesné and R. Turpin.—p. 1.
Exotic Syphilis and Neurosyphilis. A. Sézary.—p. 4.
Absorbing Power of the Pleura. L. Binet.—p. 6.
*The Groove on the Median Line of the Upper Lip and the Cupid's Bow. H. Meige.—p. 11.

Etiology of Spasmophilia.—The spasm in tetany, Lesné and Turpin say, seems to be a syndrome of exaggerated neuromuscular excitability, in connection with transient humoral changes. The chronaxia of the nerve and muscle shows that the changes are similar to those induced by vasomotor disturbances, by chilling or brief intoxications. A reduction in calcium ions appeared to be associated with disturbance of the acid-base balance of the plasma in their patients. This humoral syndrome corresponds to that described by Bigwood in epilepsy. It is probable that the acid-base imbalance affects not only the nervous system, but also tissues of ectodermal origin. The functioning of organs controlling the carbohydrate or protein metabolism may also be involved. The theories which ascribe spasmophilia to the parathyroids, to the action of toxins, or to an excess or deficit of calcium do not necessarily conflict, but lack of calcium ions seems to have the surest foundation of them all as the main factor in tetany.

The Upper Lip from the Standpoint of Embryology and of Art.—Meige's illustrated article is intended to show, he says, the reciprocal services that Art and Science can render each other.

Revue Neurologique, Paris

32: 705-832 (Dec.) 1925

The Arteries of the Base of the Brain Up to the Forebrain. C. Foix and P. Hillemand.—p. 705.
*Pain with Sinusitis. Béhague and Dufourmentel.—p. 753.
*Operative Treatment of Gastric Crises. Sicard et al.—p. 756.
*Polyneuritis with Albumin in Spinal Fluid. Thomas and Rendu.—p. 758.
*Defence Reflexes. M. E. Juster.—p. 767.

Pain in Connection with Sinusitis.—Béhague and Dufourmentel warn that occipital headache or trigeminal neuralgia may be the only appreciable manifestation from lurking sinusitis. In a case described, neuralgia of the inferior maxillary was cured by operation on the sphenoidal sinus. Two years later suborbital pains developed, and polyps were found in the ethmoidal sinus. The pains in these sinusitis cases are deeper, more continuous and less definitely localized than with primary neuralgia, although there may be regular exacerbations at certain hours. The sinus disturbance is usually of an obliterating character. In the discussion that followed, Barré called attention anew to chronic cervical arthritis as a cause of occipital headache. He suggests that both posterior sinusitis and cervical arthritis act to induce occipital headache by the intermediation of the vertebral nerve. Only paroxysmal neuralgia, with complete relief from pain during the intervals, calls for blocking the nerve with alcohol.

Chordotomy for Gastric Crises in a Syphilitic.—The cure has been complete for six months to date since the surgical division of the anterolateral columns of the spinal cord on both sides as the last resort in treatment of intensely painful gastric crises, of the tabetic type, in a mechanic aged 29. The sensory by-effects from the operation (between D1 and D2 or between D2 and D3) are of the isothermognosis type, that is, all the sensations of heat and cold are perceived at first as heat. The blood gives a positive Wassermann reaction, but the cerebrospinal fluid is negative and the tendon reflexes are normal, although the Argyll Robertson sign is positive.

Polyneuritis with Albumin in Spinal Fluid.—The young woman suddenly developed intense lassitude, with frontal headache and vomiting, speedily followed by facial diplegia, paresis of the limbs and loss of the reflexes, with the Kernig sign, stiffness of the back of the neck, and 0.2 per cent of albumin in the lumbar puncture fluid. The clinical picture recalled G. Holmes' acute febrile polyneuritis rather than epidemic encephalitis, especially the steady trend to improvement.

Defense Reflexes.—Juster argues that certain so-called defense reflexes do not represent coordinated movements for escape or walking, but are merely a manifestation of an abnormally increased irritability of the spinal cord.

Schweizerische medizinische Wochenschrift, Basel

55: 1193-1216 (Dec. 31) 1925

*Treatment of Pylorospasm. W. Tobler.—p. 1193.
Psychic Causes of Gynecologic Disturbances. H. Meyer-Rüegg.—p. 1199.
Basal Metabolism Determinations. W. Steiner.—p. 1202.
Treatment of Paroxysmal Tachycardia. M. Gilbert.—p. 1207.
Swiss Winter Health Resorts and Sports. W. Knoll.—p. 1209.

Treatment of Pylorospasm.—Tobler publishes serial details of the history of infants with pylorospasm, showing the beneficial action of diathermy.

Policlinico, Rome

32: 1745-1782 (Dec. 14) 1925

*Malaria Treatment of Leukemia. T. Lucherini.—p. 1745.
Capillary Striae Over Apical Process. T. Costa.—p. 1747.
*Sign of Acute Process in Abdomen. E. Mondolfo.—p. 1748.
Microscopic Diagnosis of Rabies. G. Pinzani.—p. 1748.
Case of Purpura from Arsenical Treatment. C. Feluco.—p. 1750.

Treatment of Leukemia with Inoculation of Malaria.—Lucherini describes a case of subacute leukemia in a boy, aged 14, with extreme anemia and fever, the spleen very large and hard and likewise the liver. The leukocytes numbered 250,000 (73 per cent myeloblasts) and the erythrocytes 1,500,000, with 24 per cent hemoglobin. Sept. 2, 1925, he was injected subcutaneously with 3 cc. of blood infected with *Plasmodium vivax*. After twelve days of continuous remittent fever, he developed the first malarial attack. After twelve attacks the malaria was arrested with 1.5 Gm. of quinine daily, and a month later the leukocytes numbered 5,800, the erythrocytes, 3,880,000, with hemoglobin 52 per cent. The leukocytes were nearly all of mature types. The spleen had been reduced to nearly half its former size, and its consistence was more normal, as also the various lymph glands that had been enlarged. The general condition was constantly and progressively improving, with good appetite and spirits, during the six weeks to date of writing.

Reflexes in Acute Conditions of Abdomen.—Mondolfo calls attention to the different behavior of the abdominal reflexes, on the two sides, with acute localized inflammatory processes.

Archivos Españoles de Pediatría, Madrid

9: 641-704 (Nov.) 1925

Nutritional Disturbances in Infants. Suñer Ordoñez.—p. 641.
*The Mental Sequelae of Epidemic Encephalitis. G. Vidal Jordana.—p. 676.
*Congenital Tuberculosis of Mesenteric Glands. E. L. de la Alberca.—p. 687.

Psychic Sequelae of Epidemic Encephalitis.—Vidal Jornada suggests that certain congenital diseases characterized by motor and mental disturbances may be traceable to epidemic encephalitis in the mother, possibly unsuspected. Children over the age of 5 presenting the sequelae of epidemic encephalitis are encountered comparatively frequently, but the acute phase is very rarely seen. It had escaped detection in fourteen of Moore's twenty-three cases, as also in the three personal cases here described, a girl of 13 and two boys of 9 and 6. The character of the previously docile and diligent children had entirely changed to morose apathy, rousing only to fits of extreme anger and destructive tendencies. The boy of 9 bit his father's hand furiously as he was being brought for examination. All displayed insomnia or, rather, inversion of the rhythm of sleep, accompanied by violent nocturnal excitement. In the youngest boy, the sleep disturbances with almost maniacal excitement all night were in a pure form, except that the three children had not developed mentally to keep pace with their apparently normal physical growth.

Primary Tuberculosis of Mesenteric Glands.—De la Alberca reports three cases in which death at the age of 1 month, 7 weeks and 5 months was explained by cheesy tuberculous mesenteric glands. No other tuberculous lesions were discovered at necropsy. He remarks that these congenital primary lesions might be found more often if systematically sought.

Boletin del Inst. de Clín. Quirúrgica, Buenos Aires

1: 85-106, 1925

The Reenstierna Skin Test for Chancroid and Treatment with Nicolle's Vaccine. S. Mazza.—p. 85.
*Rhinoplasty by the Argentine Method. O. Ivanissevich.—p. 94.
Technic for Frazier and Spiller's Chordotomy. M. Balado.—p. 97.
Hunter's Treatment of Spastic Paralysis. M. Balado.—p. 102.

Reconstruction of the Nose by the Argentine Method.—Ivanissevich gives illustrations from one typical case among the ten in which the nose was reconstructed with a flap from the ear. The thumb was sutured to a pedunculated flap at the back of the ear. The eighteenth day the flap was cut loose from the ear, and sutured to the nose. In fifteen days the hand was cut loose, and the nose was remodeled at leisure. This auriculodigitorhinoplasty was first published in 1921. This is one of the cases shown in the motion picture film, "Rhinoplasty." The patient had had part of the nose and upper lip sliced off in a brawl.

Repertorio de Medicina y Cirugía, Bogota

16: 457-510, 1925

The Boy Scout Movement. Sra. María Pérez de Mendoza.—p. 461.
*Periarterial Sympathectomy. L. Leyva Pereira.—p. 491.
Bladder Stones in Children. R. Sanmartin L.—p. 502.

Periarterial Sympathectomy in Treatment of Leg Ulcer.—Leyva Pereira states that in his eleven cases the lesion healed after the periarterial sympathectomy more promptly and completely than has been reported elsewhere in the world, according to accessible literature. He supplemented the sympathectomy with resection of the saphenous vein in the varicose ulcer cases. The ulcers were of long standing, up to five and ten years, and in some of the eleven cases were of the so-called tropical type or resulted from a mishap in injection of neo-arsphenamine. The decortication was on the femoral artery in all, and no local measures were applied during the treatment. In some of the cases, healing was complete in two weeks. In endarteritis obliterans the pain was not much relieved but other symptoms improved. In one case, from a burn on the sound leg, the day of the operation, lymphangitis developed and proved fatal the twelfth day; the ulcer had healed in the interim.

Revista Médica de Barcelona

4: 425-528 (Nov) 1925

*Syphilitic *Pregnant Women.* V. Marqués Bertrán and J. Muñoz Arbat. —p 428
Pulmonary Tuberculosis in Young Children M Salvat Espasa —p 442.
*Is the Malaria Plasmodium Single or Multiple? Sadi de Buen —p 460.
*Coagulation *of* the Blood in Tuberculosis. F. Mas y Magro —p 464.
Aphasia. J. Sanchis Banús —p. 471.
Arrhythmias F. de A. Estape —p 480.

Treatment of Syphilitic Pregnant Women.—This is a plea for renewed treatment at every pregnancy, regardless of symptoms, when there is a history of syphilis at any time.

The Malaria Plasmodium.—Sadi de Buen presents data compiled by the Spanish antimalaria commission in recent years which seem to demonstrate that the tertian, quartan and estivo-autumnal forms of the plasmodium represent three distinct species. Measures effectual against the others, do not affect the tertian.

Coagulation of the Blood in Pulmonary Tuberculosis.—Mas y Magro has recorded the coagulation time in 550 cases of disease of the respiratory apparatus. In 300 tuberculous cases, the coagulating time averaged eleven and five-tenths minutes; in 120 nontuberculous patients, eight and five-tenths minutes, and in the healthy controls, ten minutes. The leukocytes in these groups numbered 10,900, 10,700 and 7,000; the blood platelets 472,000, 322,000 and 250,000.

Beiträge zur klinischen Chirurgie, Berlin

135: 1-222, 1925

Experimental Embolism in Abdominal Aorta. O Wiedhopf.—p 1.
*Continuous Traction for Fracture. A. Lehrnbecher —p 18.
Steinach's Vasoligation H Benjamin (New York).—p 58
Heterotopic Endometroid *Growths* W. Hollmann —p *84.*
*Gen Pathology K H. Bauer.—p 96.
Technic for Extirpation of the Rectum K. H Bauer.—p. 114
*Genesis of Ulcer and Gastro Enterostomy. W. Koennecke —p 118
Treatment of Harelip *H.* Meyer —p. *136.*
*Blocking the Nerve to Correct Flatfoot. H. Meyer.—p 150
A Retroperitoneal Tumor. H. Tammann —p. 161.
Goiter from Histologic and Clinical Standpoints Beykirch —p 165
Lymphosarcoma *H.* Meyeringh.—p 185
Healing Process After Operations on Biliary Ducts Seulberger and Pollwein —p 203.

Treatment of Fractures.—Lehrnbecher extols the advantages of the Braun frame for the leg and thigh in combination with continuous traction The Schmerz clamp gave better results than adhesive plaster for the grasp on the bone. He gives twenty illustrations of the technic he applied in his seventy-six fractures of the femur and 107 below the knee since 1919. Of the eighty before 1923, fifty-six have recovered completely; thirty-two are receiving 10 to 20 per cent workmen's compensation, and only two, compensation of 30 per cent or more.

Pathology of the Gen.—Bauer explains that breeding experiments on animals with spontaneous or induced deformities, such as cataract, polydactylia or albinism, may throw light on the pathology of the gen and on the pathogenesis of such anomalies. Hemophilia, for instance, suggests that there must be a physiologic gen for formation of thrombokinase, and thrombopenia that there must be a gen for formation of blood platelets. Blood grouping can be studied on animals. These and other facts cited open a broad field for experimental research on gens and the antibodies against them. The study of heredity can be made an exact science by systematic, well planned and sufficiently numerous experiments, when the technic for biologic research has been developed on animals and the sources of error avoided. The greatest progress in biology of the present century has been in the study of heredity. Not only in stock raising and agriculture but in pedagogics, mathematics and even philosophy there is eager study of the laws of heredity. Medicine, the daughter of Biology, has only just begun to glimpse the possibilities of heredity for her. After the discovery of the cell in 1833. twenty years elapsed before Virchow made this discovery useful for medicine by his "cellular pathology." It is now twenty-five years (including five years of war) since the discovery of the gen

Pathogenesis of Gastric Ulcer.—Koennecke insists that resection of the pylorus end of the stomach removes the cause of ulcer formation, while a gastro-enterostomy is a leap in the dark except when it is directly indicated for ptosis or other reason in the absence of ulcer and pylorostenosis.

Treatment of Flatfoot by Blocking the External Popliteal Nerve.—Meyer accomplishes this by freezing the nerve, and has found it answer the purpose perfectly in cases of flatfoot entailed by contracture from some inflammatory process He exposes the nerve above the head of the fibula and slips a strip of lead, 1 cm wide, underneath and sprays the nerve with ethyl chloride Freezing in this way for two or three *minutes blocks the nerve completely for* about six months In thirty-four of his total fifty-three cases, the patients were adolescents. In all without exception the function of the popliteal nerve had returned by the fifth to the seventh month. The contracture had been cured in all, but some neglected the after-treatment and only forty got the full benefit of the functional correction After-treatment requires revision of the flatfoot inlay every four to six weeks. The deficit phenomena are so slight that even in twelve cases of bilateral freezing, the earning capacity is not impaired.

Deutsches Archiv für klinische Medizin, Leipzig

149: 129 381 (Dec) 1925

Myotonic Dystrophia. H Curschmann —p 129
Traumatic Origin of Arteriosclerosis A Schmincke —p 145.
Changes of Acidity of the Blood Gollwitzer Meier —p 151.
Microscopy of Sweat Secretion E Jürgensen —p 157.
*Chlorides After Irradiation. A. Engelhard and H Sielmann —p 168.
*Blood Pressure and Kidney Changes K Beckmann —p 177
*Vomiting and Emetics P. Klee and L Laux —p 189
Amplification of Action Currents W Mobitz —p 209
Sensory Disturbances with Lesions of Lateral Column —Bremer —p 213.
Pulse Examination. H. Straub and C Kroetz —p 230
Porphyrin Diseases H. Weiss —p 255.
Pulsation in the Liver. W. v. Kapff —p 279
*Hypochloremic Diabetes Insipidus W. H Veil —p 289
*Professional Wrestlers A E Lampe et al —p 317
*Atropine Resistance in Encephalitis. F W. Bremer —p 340
*Potassium Calcium Ratio E Kylin and G Myhrman —p 354
Blood Coagulation in Scurvy. N. N. Pissarewsky —p 366
Cardiography. W. Weitz —p 372.

Excretion of Chlorides After Irradiation.—Engelhard and Sielmann observed a lowered excretion of chlorides by the kidneys following roentgen irradiation. Irradiation of the blood in vitro produced no shifting of the chlorides

Blood Pressure and Kidney Changes.—Beckmann produced a slight but undeniable hypertension in rabbits by repeated injections of d-epinephrine. The capillary pressure was also increased, but no kidney changes were noted. Lead poisoning increased the capillary pressure. This is probably not due to the simultaneous slight lesions of the kidneys. Experimental nephritis induced by diphtheria *toxin and uranium* nitrate causes surprisingly parallel changes of the kidneys and of the pressure—especially in the capillaries. A renal origin of the hypertension *is not impossible, here.*

Vomiting and Emetics.—Klee and Laux found that the fundus part of the stomach in cats cooperates in expulsion of its contents into the esophagus. No vomiting movements were obtained when both the splanchnic and vagus nerves had been severed. Blocking either one merely made larger doses of apomorphine necessary. Even the reflex vomiting after ingestion of copper sulphate could still be produced after severing the vagus.

Hypochloremic Diabetes Insipidus.—Veil observed a case of diabetes insipidus with low concentration of blood chlorides in a young girl with other postencephalitic symptoms. Thirst again increased the weight of the patient. This was due to a *decrease of her metabolism* (the basal rate was +48 per cent when drinking freely, and + 27.5 per cent during restriction of fluids and — 1.1 after three days of atropine treatment). This constitutes one of the main differences from the hyperchloremic type, which has a normal or low metabolism and reacts to restriction of fluids with loss in weight and grave symptoms. Atropine has no effect in this latter group. The former group differs from polydipsia by the low chloride content of the serum: chronic ingestion of large amounts of water causes hyperchloremia.

Professional Wrestlers. — Lampé, Weltz, Heinrich and Straubel examined repeatedly twenty-one professional wrestlers before and after the bouts. One of the subjects had all the clinical signs of a syphilitic insufficiency of the aorta; another had a chronic nephritis with a blood pressure of 240 mm. of mercury! The majority had rheumatic changes in the left pectoral muscle. Lack of training may entail a dilatation of the heart after the bout. The same heart may become smaller later on, when the man is in good training condition. They believe that this together with an increased blood pressure and quick return of the pulse toward a normal frequency are good signs. Enlargement of the heart with lowered pressure and persisting acceleration of the pulse indicate in their opinion a bad cardiovascular condition. They found in the majority of wrestlers after the bout a low alveolar tension of carbon dioxid—sometimes only 18 mm. mercury. This is probably due to the hyperpnea during the fight.

Atropine Resistance in Encephalitis.—Bremer found in three out of six serums from patients with postencephalitic symptoms an absorptive capacity towards atropine and pilocarpine. This resembles Fleischmann's observations on the serum from rabbits, and may account for the high atropine tolerance in encephalitis patients.

The Potassium-Calcium Ratio in the Blood.—Kylin and Myhrman injected epinephrine in 119 subjects after determining the potassium and calcium content of the serum. The lower the potassium-calcium ratio, the stronger, generally speaking, the rise in blood pressure (sympathicotonia). The higher the ratio, the more prominent was the lowering of the blood pressure (vagotonia). The second group occurs with asthma, essential hypertension and vagotonic neuroses. Diabetes in the young belongs to the first group. The calcium content varied in healthy persons between 10.6 and 12 mg. per hundred cubic centimeters; in pathologic conditions, between 9.1 and 12.9. The potassium content varied in health between 18 and 23 mg.; in patients between 14.3 and 38.3. The potassium-calcium ratio was in health 1.70 to 2.15; in disease 1.35-3.48. The highest figure was obtained in a case of grave insufficiency of the kidneys.

Deutsche medizinische Wochenschrift, Berlin

52: 1-48 (Jan. 1) 1926

*Pancreatic Digestion of Protein. R. Willstätter.—p. 1.
*Treatment by Injection. C. Hirsch.—p. 2.
Hormone of the Estrual Cycle. P. C. Hart et al.—p. 4. C'td.
*Fat Soluble Vitamin. E. Poulsson.—p. 6.
Metabolism in Diagnosis of "Neuroses." H. Curschmann.—p. 9.
*Syphilis and Relapsing Fever Spirochetosis. W. Kolle.—p. 11.
Perforated Gastric Ulcer and Jejunostomy. Enderlen.—p. 13.
Ventricle Electrocardiogram. F. B. Hofmann.—p. 15.
*Ulcus Serpens of the Cornea. K. Wessely.—p. 17.
*Mixture of Constitution in Healthy Mates. E. Kretschmer.—p. 20.
Roentgen Diagnosis of Spinal Canal. H. Peiper.—p. 22.
*Reversion of Hemolysis. W. Starlinger.—p. 25.
Practical Therapy. H. H. Meyer.—p. 26.
Standardization of Endocrine Preparations. P. Trendelenburg.—p. 26.
Treatment of the Heart in Nephritis. H. Strauss.—p. 28.
Action and Use of Diuretics. W. Nonnenbruch.—p. 30.
Syphilitic Spinal Paralysis. F. Pick.—p. 33.
Vocational Physical Examination. Hanauer.—p. 34.
Tuberculosis of Epididymis and Testis. E. Wehner.—p. 46.

Pancreatic Digestion of Protein.—Willstätter reviews the recent improvements in purification of ferments obtained in his institute. A development of adsorption methods and of methods for separation of the ferments from the adsorbing substance at different reactions has made this possible. Many properties attributed hitherto to the ferments were due to impurities. For instance, the optimum of the reaction has been cited as the main difference between the gastric and the pancreatic lipase. Yet it is due to an admixture of an inhibitory substance, acting in alkaline mediums, and possibly also of an activator which develops its function in an acid medium. The lipase, trypsin and amylase of the pancreas have been successfully separated. Moreover, the proteolytic ferment consists of two separable fractions. One of them, the true trypsin, hydrolyzes peptone even without being activated. After addition of enterokinase, it hydrolyzes casein, fibrin, gelatin, and other practically native substances. It does not split peptids, which are all hydrolyzed by the second pancreatic ferment, identical with the erepsin of the intestine.

Treatment by Injection.—Hirsch quotes Hanzlik's and Handovsky's research and other evidence which show that intravenous injections are by no means innocuous.

Fat Soluble Vitamin. — Poulsson shows the parallelism between the incidence of xerophthalmia and the exportation of butter in Denmark. Thousands of Japanese children died every year under symptoms of diarrhea, atrophy, xerophthalmia (the Hikan disease), until Mori began to treat them with the oil of a fat fish. Poulsson emphasizes the necessity of resorption of fat as a vehicle for the vitamin. This explains the xerophthalmia cases observed in jaundice. Subcutaneous injection of an extract from cod liver oil cured one of these patients. The liver of male cods contains more oil than the liver of the female codfish. The sperma contains twice as much vitamin as the roe. The liver fat from certain other fishes contains about the same amount of vitamin as cod liver oil. Plants form it in the sea as well as on the land. He mentions the probability of the presence of several vitamins in the fat, and the method of their concentration.

Syphilis and Relapsing Fever Spirochetosis.—Kolle confirms Reiter's observation on the susceptibility of a large percentage of syphilitic rabbits to other strains of the syphilis spirochetes. This shows the great difference between the disease in rabbits and in man. He finds that reïnfections occur in man after abortive treatment of syphilis much less frequently than might be expected. This may be due to the development of true immunity.

Ulcus Serpens of the Cornea.—Wessely is more than skeptical as to the results of chemotherapy. He pleads for cautious cauterization with his tube, which is heated by steam. The temperature of 98 C. thus obtained is much less injurious than the galvanocautery, and the ultimate results have been much better.

Mixture of Constitution in Healthy Mates. — Kretschmer investigated on 100 married couples of his acquaintance and on seventy more of another psychiatrist the problem of the attraction by similar or different qualities. The large majority of the pairs were of different types; frequently the temperament of one was the direct opposite of that of the other. Similarity was observed practically only in the quiet middle stratum of the temperaments. It was to be expected that two autistic schizoids would be too self-centered to be attracted to each other. It was, however, surprising to see that of thirty-seven subjects of the hypomaniac type only two mated. The rest—healthy, joyous natures, fond of associating with persons of similar tastes—married chiefly their opposite: cold-natured schizothymics. The soft and weak men married mostly energetic, sometimes hard and sharp women. Contrary to expectation, the latter marriages were harmonious. He concludes that his material demonstrates the deep influence of instinct in the choice of a mate. It is something beyond and above the individual, and it sometimes conflicts with the individual rational satisfaction. It can be explained only from the higher standpoint of progeny. The mating of individuals standing at the dangerous opposite extremes prevents the breeding of such extremes, and promotes their healthy biologic mixture. The mating of similar constitutions is innocuous only with the well balanced middle constitution, and occurs therefore instinctively more frequently in this class.

Reversion of Hemolysis.—Starlinger found that in the same individual about the same quantity of hemoglobin returns to the stroma after addition of salts to the laked blood. The amount changes after blood transfusions and protein injections. Pernicious anemia shows an extremely high degree of reversibility of hemolysis.

Deutsche Zeitschrift für Chirurgie, Leipzig

194: 1-144 (Dec.) 1925

*Habitual Dislocation of the Shoulder. G. Perthes.—p. 1.
*Transplantation of Kidneys. L. Lurz.—p. 25.
*Mechanical Dyspnea. R. Nissen and P. Cokkalis.—p. 50.
Treatment of Cancer. A. Theilhaber.—p. 91.
Anomalies in the Arm Vessels and Nerves. W. Lubosch.—p. 105.
Mobilization of the Knee. R. Bonn.—p. 114.
Cancer of Lungs Simulating Abscess. Krampf.—p. 128.
Ileus from Cystic Lymphangioma. R. Reinecke.—p. 133.
Myoma of the Gubernaculum. H. Kohler.—p. 138.
"Hemorrhages from Urinary Organs." E. Joseph.—p. 142.

Habitual Dislocation of the Shoulder.—Perthes criticizes the surgical methods of treatment of habitual dislocation of the humerus and pleads for the method devised by him in 1906. Its main feature is suture of the capsule of the joint which is torn off in such cases. He had fine results in all of his eleven patients. Five of them can move the arm perfectly freely.

Transplantation of Kidneys.—Lurz succeeded in two out of twenty-eight autotransplantations of a kidney in dogs. He confirms the increased diuresis and elimination of chlorides on the denervated sides. The ureter contracted normally. There was no reaction of the transplanted kidney or ureter to psychic stimuli.

Mechanical Dyspnea.—Nissen and Cokkalis produced an artificial stenosis of the trachea in dogs and rabbits. The inspiratory dyspnea caused by it disappears after bilateral exeresis of the pneumogastric. It is therefore at first due to centripetal disturbances of the vagus. It reappears only when the physico-chemical condition of the blood changes. The expiratory dyspnea is due to a functional change of the breathing mechanism—very rarely to mechanical causes. The negative intrapleural pressure increases progressively, and at the same time the right ventricle hypertrophies and dilates. The edema of the lungs which occurs after sudden relief from the tracheal stenosis is of similar origin to the edema following evacuation of a large pleuritic exudate.

Jahrbuch für Kinderheilkunde, Berlin

111: 1-126 (Dec.) 1925

*Gastric Secretion. K. Iwanoff-Gluchowa and A. Sawschinsky.—p. 1.
*Gastric Secretion in Infants. A. B. Wolowik.—p. 9.
Fasting Secretion in Infants. A. B. Wolowik.—p. 21.
Blood and Constitution. A. F. Tur.—p. 29.
*Mongolian Idiocy. J. Vas.—p. 51.
*Toxic Gastro-Enteritis. G. Jörgensen.—p. 63.
Intestinal Infantilism. O. Göttche.—p. 81.
Gastrectasia in Children. Bogen and Schmiemann.—p. 94.
*Pancreas Treatment of Digestive Disturbances. P. Leitner.—p. 105.
Porencephaly. H. Kikuth.—p. 112.

Gastric Secretion.—Iwanoff-Gluchowa and Sawschinsky believe that the Ewald test meal induces only the "reflex" not the "chemical" secretion. They prefer 200 cc. of a 5 per cent or 10 per cent solution of Liebig's meat extract. The maximum secretion is obtained in an hour and a half or two hours after its administration. By this time all of the extract has left the stomach, and it stimulates the gastric secretion from the blood. This confirms Rasenkoff's experiments on the action of extractive substances injected intravenously. The latter author also induced secretion by injecting blood drawn during digestion of extractive substances.

Fasting Secretion in Infants.—Wolowik observed a periodic gastric secretion in fasting infants. This gastric juice contains various amounts of acid. In some of the infants free hydrochloric acid was always present; in others only at times, and it was absent in a third group.

Mongolian Idiocy.—Vas finds that mongolian idiocy is no more frequent in Hungary with its predominance of the Magyar Mongolian race than in countries inhabited by the white race. One of his patients was a girl whose twin brother was healthy. The Löwy reaction was negative, the Aschner reflex positive in all his forty cases. Sergent's "suprarenal white line" could be produced in 75 per cent of them. The blood pressure was low, and the coagulation time seemed to be prolonged.

Toxic Gastro-Enteritis.—Jörgensen attributes to the Welch bacillus the etiologic rôle in acute toxic gastro-enteritis of infants. Its spores are introduced by the milk, and it develops a poison in the presence of sugars, probably in vivo as well as in vitro. Therefore it is rational to exclude carbohydrates from the food in such conditions.

Pancreas Treatment of Digestive Disturbances.—Leitner found little if any trypsin in the feces from dystrophic infants and children or those suffering from enteritis or colitis. He had good therapeutic results with administration of a pancreas preparation by mouth, four times daily.

Monatsschrift für Geb. und Gynäkologie, Berlin

71: 249-388 (Dec.) 1925

*Difference in Size of Twins. T. Brandess.—p. 249.
Psychotherapy. M. Braun.—p. 258.
Retro-Uterine Tar Cyst. O. von Franqué.—p. 263.
Spontaneous Torsion of Adnexa. B. Beuthner.—p. 272.
Treatment of Sterility in Women. G. Schwarz.—p. 283.
Primary Cancer of Fallopian Tube. A. Schlaak.—p. 294.
Diagnosis of Appendicitis. König.—p. 304. Idem. Leendertz.—p. 313.
Appendicitis in Women. K. Fink.—p. 328.
Duration of Pregnancy. H. Gummert.—p. 339.

Difference in Size of Twins.—Brandess investigated the causes for a marked difference of size in twins. In ten of his cases the difference in length was more than 5 cm. Four of the mothers had had hemorrhages during pregnancy. He is inclined to believe that accidental factors are responsible for the more pronounced differences.

Münchener medizinische Wochenschrift, Munich

72: 2223-2240 (Dec. 25) 1925

*The Rumpel-Leede Phenomenon. R. Stephan.—p. 2223.
Case of Feer's Disease. M. Müller.—p. 2224.
*Color of Iris. K. Münch.—p. 2225.
Treatment of Dyspepsia in Infants. Wieczorek.—p. 2228.
"Sleep Disturbances in Children." A. Hartmann.—p. 2229.
Technic of "Clean" Porro. H. Hinselmann.—p. 2229.
Reposition of Dislocated Mandible. D. Kulenkampff.—p. 2229.
Expulsion of Foreign Body Through Wall of Bladder. Berger.—p. 2230.
Treatment of Beginning Gonorrhea. F. Schmidt.—p. 2230.
Treatment of Gonorrheal Complications. H. Hecht.—p. 2231.
Dispensary for Venereal Diseases. L. Wolff.—p. 2231.

The Rumpel-Leede Phenomenon.—Stephan admits Walterhöfer's observation on the possibility of inducing intracutaneous capillary hemorrhages in practically every subject by constriction of the arm. Yet he emphasizes the quantitative differences. He uses a broad rubber cuff and induces for five minutes a stasis which leaves the radial pulse just palpable. A negative result does not exclude a lesion of the capillaries. A positive result proves it. He also reiterates his observations on the acceleration of the coagulation of blood from one group of these patients by addition of inactivated normal serum. This group is connected with a deficiency of the thermostable thrombokinase.

Color of the Iris.—Münch reviews the evidence for his theory that the chromatophores of the iris are a type of muscle cells, and act as the real dilator of the pupil. He thinks that Henle's muscle is too thin to account for dilatation. He believes that the pigment is not absent in the anterior portion of the iris of blue eyes, but assumes that it is not colored.

Zeitschrift für die ges. Neurol. u. Psychiatrie, Berlin

100: 1-138, 1925. Dedicated to W. Bechterew. Partial Index

*Comparative Function of Brain Hemispheres. S. E. Henschen.—p. 1.
*Biologic Interpretation of Reflexes. Astwazaturow.—p. 70.
*The Upper Lid Symptom. A. W. Gerwer.—p. 101.

Comparative Functioning of the Right and Left Hemispheres of the Brain.—Henschen compares the functioning of the right and left hemispheres in regard to speech, music and mathematics, emphasizing the law that when Nature develops one of a pair of organs to exceptional efficiency, its mate is sacrificed. In quadrupeds, predominance of one side over the other has never been demonstrated, and the findings in monkeys are conflicting. He reviews data which seem to show that the right hemisphere has always been organically inferior to the left. The left side of the skull is often more prominent than the right in particularly talented persons (Cesar, Napoleon, Goethe), and he noted it in an Egyptian mummy and in a gorilla. A prehistoric wall painting (Magdalène Cave) shows a man carrying a stick on his right shoulder. He was, then, right handed, the better developed motor neurons being in the left hemisphere. These and other facts cited seem to testify that the right hemisphere in man has been inferior from the earliest days of mankind.

Biologic Interpretation of the Behavior of the Reflexes in Disease of the Pyramidal Tracts.—Astwazaturow explains that disease in the cortex pushes the nervous system back into an earlier stage of evolution. The behavior of the reflexes does not depend on whether they are superficial or deep, but on their phylogenetic rank. The reflexes that date from the infancy of the race are exaggerated or roused from a latent stage, while the more recently acquired reflexes drop out.

The Upper Lid Symptom.—Gerwer's later experience has confirmed the diagnostic importance of the effort required to open the eyes after holding them closed for three to seven seconds. In nervous and mental disease, with depressed conditions in general, this eyelid symptom is often the first objective manifestation. It seems to be in closer connection with functions of the central nervous system than the ordinary symptoms of neurasthenia (tremor, dermography, etc.). It may prove useful in excluding suspicion of malingering.

Zeitschrift für Tuberkulose, Leipzig

44: 1-96 (Dec.) 1925

*Tuberculosis Mortality in Saxony. F. A. Weber.—p. 3.
Curable Tuberculous Infiltrates. F. Fassbender.—p. 35.
Treatment of Tuberculosis of Bones and Joints. E. Rüscher.—p. 45.
Complement Fixation in Tuberculosis. Max Pinner (Chicago).—p. 49.
*Tuberculosis and Myopia. G. Hirsch.—p. 52.
Active and Inactive Tuberculosis. H. Kotzerke.—p. 56.
Soap Treatment of Tuberculosis. K. Brünecke.—p. 58.

Tuberculosis Mortality in Saxony.—Weber publishes elaborate tuberculosis statistics on Saxony—the German state with the lowest incidence of tuberculosis. There is no parallelism between the industrial sections and the sections most affected with tuberculosis. The type of the occupation, as well as the general living conditions, play the most important rôle. The conditions in certain regions with old, well organized mills are better than in some of the rural districts.

Tuberculosis and Myopia.—Hirsch compares the frequency of tuberculosis and of myopia from 1895-1914. He sees a close parallelism which he considers further evidence sustaining his theory of the tuberculous origin of myopia. He believes that the toxins of tuberculosis act on the vasomotor nerves of the posterior part of the eyeball. The ratio of the tuberculosis mortality to myopia is about as 1: 109.

Zeitschrift für Urologie, Berlin

19: 881-952, 1925

Large Calculus in Left Kidney. W. Hofmann.—p. 881.
Syphilis of the Seminal Vesicles. F. Keve.—p. 885.

Arkhiv Biologicheskikh Nauk, Moscow

24: 163-299. Partial Index

Hydrogen Ion Concentration of Gastro-Intestinal Juices. V. Arkhangelsky.—p. 163.
*Spectrophotometric Test for Ammonia. V. Arkhangelsky.—p. 169.
*Vaccination Against Paratyphoid. U. Sokolova.—p. 193.
*The Wildbolz Urine Reaction in Tuberculosis. K. Vvedensky.—p. 211.
*Technic for Staining Acid-Resisting Bacilli. O. Fondarinova.—p. 247.
Mechanism of Action of Cyon's Nerve. A. Krestovnikoff and V. Savitch.—p. 279.

Determination of Ammonia in the Blood.—Arkhangelsky mixes 10 cc. of blood with 0.2 cc. of Nessler's reagent. The measurement of the amount of ammonia is read two and a half hours later by the spectrophotometer. He examined the blood of three normal dogs, three fasting, and four with the parathyroid glands removed. The amount of ammonia shown harmonized with that found by other methods. The errors with the spectrophotometric method are insignificant; it reveals the presence of 0.03 and even 0.005 Gm. of ammonia in 1 cc. of blood. The quantity of ammonia appeared increased in the parathyroidectomized animals during the tetany. After the animals had been treated with calcium, the amount of ammonia in the blood did not increase, but tended to decrease. Arkhangelsky emphasizes that the method is simple and rapid.

Oral Immunization Against Paratyphoid.—Sokolova's experiments were conducted on guinea-pigs and rabbits. Immunization with paratyphoid N vaccine, given by the mouth, was followed by accumulation of agglutinins in the blood. The immunized animals were injected intra-abdominally with agar cultures of the paratyphoid bacillus N. The injection of the culture was followed in from two to twenty-four hours by leukocytosis in the immunized, while in the controls it induced reduction of the leukocyte count. The immunized guinea-pigs resisted from two to ten lethal doses of the paratyphoid culture and died only when twenty lethal doses had been given, and only on the fourth to the seventh day. The controls died from the same doses within the first day.

The Wildbolz Urine Reaction in Surgical Tuberculosis.—Vvedensky applied the Wildbolz test in fifty-six patients with surgical tuberculosis and in twelve with traumatism or benign tumors. A total of 316 tests was made. The reaction was positive in thirty-two of thirty-six patients with a marked tuberculous process. In four with encapsulated tuberculous foci; in twenty with nontuberculous surgical affections, and in twelve healthy subjects the reaction was negative. No general or local complications occurred with the reaction. (The Wildbolz auto-urine test was described in The Journal, Dec. 18, 1920, p. 1755.)

Method for Staining Acid-Resisting Bacilli in Milk.—After centrifugalization Fondarinova adds carbol fuchsin to the milk. It is decolorized with sulphuric acid and then treated with alcohol and chloroform or ether. The slide is rinsed, and counterstained with methylene blue. Tests were made on fifteen samples of market milk at Leningrad. With the Ziehl-Neelsen method, acid-resisting bacilli were found in one sample; with the modified technic in two. No bacilli were detected by the old method in smears from the upper layer of the centrifugalized milk; with the modified method they were found in five.

Ugeskrift for Læger, Copenhagen

87: 1099-1124 (Dec. 10) 1925

*The Diffusible Glucose in the Blood. C. Lundsgaard and S. A. Holbøll.—p. 1099.
*Pathogenesis of Jaundice. E. Meulengracht.—p. 1103. C'cn.
Conservation of Procaine-Epinephrine Solutions. L. E. Walbum.—p. 1106. Reply M. Melchior.—p. 1187.
"Injection Treatment of Varicose Veins." V. Meisen.—p. 1108.
The Question of a Public Institution for Treatment of Rheumatic and Nervous Affections. H. Jansen.—p. 1116.

Free and Combined Glucose in the Blood.—In this tenth report of their research on carbohydrate metabolism, Lundsgaard and Holbøll confirm that the red blood corpuscles give up all their sugar content to the plasma when it does not contain sugar already. This testifies that the glucose in the erythrocytes is in a free, diffusible form. Experiments which apparently prove the reverse are explained by the unphysiologic character of the fluids used in the tests (saline solution, etc.).

Pathogenesis of Jaundice.—Meulengracht's article opened the discussion on this subject at the internal medicine congress of the Northland. He presents data to prove that jaundice is due most frequently to impairment of the excreting function of the liver, and that this is generally traceable to inflammatory or degenerative changes in the liver cells themselves. Any mechanical obstruction to the outflow of bile causes the bile to back up in the liver cells, damaging them. Even without mechanical obstruction elsewhere, any deficiency in the excretory function of the liver entails an accumulation of preformed bile pigment in the liver cells. The result is a liver affection analogous to parenchymatous nephritis or nephrosis. He rejects Virchow's conception of "catarrhal icterus" as due to plugging of the biliary passages with accumulations of mucus; he transfers the source of the trouble to the liver itself. The changes in the liver in the severer cases resemble those in acute atrophy of the liver. Instances are known in which so-called catarrhal jaundice has merged into acute atrophy or cirrhosis of the liver. He adds that the excretory function may be impaired with the other functions still intact.

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THE ORGANIZATION OF THE UNIVERSITY MEDICAL SCHOOL *

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CHICAGO

For twenty-two years I have been chairman of the Council on Medical Education of the American Medical Association. During this period I have had the opportunity of studying the organization of our American medical schools. During this period most of our medical schools which survived the revolution which the American Medical Association brought about have become the medical departments of universities, and a number of universities have created new medical departments.

It is unnecessary for me here to review the great changes that have taken place. These changes have amounted to a complete reorganization. I desire from my study of this subject to present my conception of how a university should organize and conduct a school of medicine. The task of developing a modern medical school has become one of the greatest, one of the most important functions of a university. It is also one of the most difficult and costly pieces of work that a university can undertake. It is a difficult task, because until recently most of our universities have had little or no experience in conducting medical schools.

It is a difficult task, and a new task, for the university because the development of a medical school cannot be made along the same lines as other departments. Other departments of the university are for the most part university affairs which can be developed within the university. A medical school must be developed on broader lines. The medical school, through its hospitals and dispensaries, its laboratories, its maternities, its infant welfare work and its public health work, is not simply a department of the university interested in teaching and research; it is more—it is one of the most important of the agencies which can secure for the people the great benefits of modern curative and preventive medicine. A medical school developed on these broad lines can be of the greatest service to both the community and the university. It can do more to make the university an essential integral part of the community than can any other department.

Let us from our experience of the last twenty-two years of study of this subject, as medical educators, formulate a plan for the development of a university medical school on broad and sound lines.

The first question to be answered is: Should the particular university under discussion develop a medical school at all? This may be frankly answered in the negative if there are already a sufficient number of well organized medical schools in that particular territory, or if the university is located in a small center of population where it would be difficult to develop a well balanced medical department.

THE PLANT, THE LOCATION AND THE BUILDINGS

Granted that conditions warrant the development of a medical school, the first essential is that the medical school should be located in close contact with the university. This does not mean that it is essential to locate the medical school on the college campus. It is desirable, if possible, to have the medical school in close contact with the other scientific departments of the university, especially those of physics, chemistry and biology.

There is, however, another factor which must be considered: it is essential to have the medical department in contact with a great general hospital, with dispensaries and with special hospitals, such as maternity, children's, orthopedic and contagious.

The ideal situation is one in which the medical school can be developed in contact both with the great hospitals of the community and with the scientific departments of the university. Local conditions may prevent this, in which case the university must choose between the two locations: contact with the scientific departments of the university or contact with a group of hospitals. In making this decision, it must be remembered that hospitals and dispensaries are absolutely essential.

Whichever location is chosen, the first essential is to secure a large block of ground, from ten to twenty acres for present needs and future development, large enough to accommodate not only the medical school building, but a large general hospital and dispensary and a number of special hospitals. The university should be in a position where it can furnish the ground in close contact with its medical school buildings, on which special hospitals can be built.

In organizing the medical school, the community should be taken into the scheme as an active partner. In using the word "community" here I use it in a sense broad enough to cover a city, a county and a state. The community must be made to realize that the great medical organization which is being created is both a university and a community affair.

Medical education has become a very costly thing. No university should undertake to develop a medical school without first looking carefully into the cost and the upkeep. The cost of the medical school must be divided between the two partners, the university and the community. The cost of the medical school buildings, the laboratories, the facilities for research and the

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* Read before the Annual Congress on Medical Education, Medical Licensure and Hospitals, Chicago, Feb. 15, 1926.

salaries of the teachers must be borne by the university. On the other hand, the cost of building and maintaining hospitals, dispensaries and clinical laboratories must be borne by the community.

I desire to emphasize this statement and, if possible, to make it perfectly clear. The cost of building and maintaining hospitals and dispensaries is not a proper charge to be borne by the medical school. There are medical departments which have made this mistake and spend between two thousand and three thousand dollars a year per medical student, a charge which is entirely out of line with the other departments in the university.

Looked at from the best interests of the two partners, the community and the university, it is a mistake for the university to build and maintain hospitals and dispensaries for the purpose of teaching medicine; and it is a serious mistake for the community to build and maintain hospitals and dispensaries without using them for the purpose of medical teaching and medical research, for in no other way can they secure the best medical and surgical skill and care for their patients.

We must convince the public and the municipal, county and state officials, and university presidents and trustees, and trustees of the hospitals of the fact that the people of this country can secure for themselves and their children better medical service, better medical care and better facilities for research for the purpose of solving the many unsolved problems in medicine, by making a close cooperation between our great hospitals and dispensaries and the medical departments of our universities. It would have been difficult to do this twenty-five years ago. It will not be difficult to do this today. All over the country this sort of cooperation is being secured.

I believe that by a concerted effort by the universities, by the American Medical Association, by state, county and municipal officials and influential members of our [illegible]munity, whose interest in this matter we can secure, [illegible]ed in bringing about this scheme of cooper[illegible]hin the next ten years.

THE FACULTY

The members of the faculty of a medical school should be medical men, graduates in medicine who should keep in touch with medicine even though they are teaching in a laboratory branch, like anatomy or physiology. A man without such training is seriously handicapped in his work and may be an actual menace. It is not sufficient to study and teach anatomy and physiology in a medical school for their own sake alone; they must be studied and taught and research in them carried on from the standpoint of their relation to, and the needs of the science of medicine and of the medical student.

The members of the faculty in the laboratory branches should be full-time university instructors and should be well paid. It is difficult to secure and retain strong men in these positions without adequate salary and proper provision for pensions. The members of the faculty teaching clinical medicine present a different and a difficult problem. These men in a well organized medical school will occupy positions as the attending physicians and surgeons and specialists in hospitals which are serving the community and all classes of the community. These teachers of clinical subjects must be not only university teachers and trained research men but also expert clinicians. They should be the recognized authorities in t[illegible]ds and serve as such both the medical prof[illegible]

If the medical school is organized in the proper way, with the cooperation of the university and the community, the clinical teachers must retain their normal relationship to the community and the medical profession and must be both teachers of medicine and practitioners of medicine.

In the organization of the strong universities in central Europe, the clinical teachers occupy the dual position of university teacher and great consultant. They are first and last, and all the time, devoting their energies to clinical teaching and clinical research, and while they are doing this, they serve as great consultants in special fields and serve all classes of the community. They very properly receive, from those who can pay, remuneration for their services. The patient who occupies a private room may be quite as important a factor in a piece of clinical research and in clinical teaching as the patient in a ward bed. As a matter of fact, private-room patients furnish more unusual and difficult problems than do ward patients. They often present obscure cases and are sent to the consultant from great distances.

I want to repeat here what I have said before, that the best teaching hospital is a great general hospital which cares for all classes—the poor, the charity cases, those of quite moderate means who pay part of the cost of their care, and the well-to-do who pay the cost and more than the cost of their care. It seems difficult for some minds to comprehend the fact that a great clinical teacher can spend his life in the wards and private rooms and laboratories of a hospital and receive compensation from some of his patients, possibly a third of them, and yet be the highest type of university professor, devoting his life to clinical teaching and clinical research, just as completely as does the physiologist in his class room and his laboratory.

It is very desirable to have consulting rooms at the teaching hospital, making it possible for the clinical teachers to do practically all their work in one institution. The clinical faculty should receive fair compensation for their services, certainly not more, possibly not as much as the teachers in the laboratory branches. A large part of the budget of a clinical department should be devoted to the younger men who are devoting their time to teaching and research work and acting as assistants in clinical work to the professors and associate professors.

The heads of the clinical departments, especially those of medicine and surgery, should be very broadly trained men, let us say of the Osler or Billroth type, and not men limited to some narrow field of medicine. These broadly trained men are of especial value in teaching undergraduate students.

THE STUDENTS

The preliminary education required has been fairly generally agreed to by medical schools of the university type for many years, at least since the time of Billroth and his small monograph on medical education, "Lehren und Lernen," which was published in 1875.

This requirement has been a secondary school education plus, at least, a year's training in physics, chemistry and biology. In this country the requirement which has been almost unanimously agreed on is that of the high school, plus a premedical course of two years in the university, largely in physics, chemistry and biology. With this minimum, plus four years in the medical school and the year or more as an intern in the hospital, we have developed a medical course which graduates the student into medicine at about 28 years of age on the average, as the Council on Medical Education first pointed out some years ago.

It is true that the normal boy, without any interruptions of any kind, can enter school at 6 years, remain eight years in the primary school, remain in high school four years and enter college at 18, finish his two years of premedical work at 20, enter the medical school and finish his four-year course and hospital year at 25. This would be a very desirable age at which to enter medical practice. As a matter of fact, however, our present scheme, because of interruptions and because many students take the full four-year college course, results in finishing the intern year at an average of 28 plus. This is a serious matter and should be corrected by the general adoption of the six-year combined course and by cutting out two years in the primary and secondary school work, so that we could graduate our medical students at 25 years of age. The Council is keenly alive to the importance of this matter. The movement is well under way, and with the proper cooperation between the primary and secondary schools, and the university and the medical school, we should be able to reduce within eight or ten years the average age of completing the medical training to between 25 and 26 years.

This reduction in age, however, should not be brought about by lowering requirements in any way. Plans suggested to reduce the preliminary requirements and the length of the medical course cannot be seriously considered, and will not be considered by the universities, the medical schools or the state licensing boards, or state legislatures.

Several years ago, when such a plan was proposed in Kentucky by one of the most influential medical men in the state, the legislative committee to which it was referred rejected it almost unanimously, after hearing evidence from both sides.

The question of the number of students in a medical school is an important one. It is, of course, a mistake to maintain a medical department for a very small number of students, say twenty-five in each class. I doubt very much whether it is wise, whether it is worth while, to conduct a medical school with less than fifty students in each class. On the other hand, it is unfortunate to have more students than can be properly taught. It is difficult to place a definite limit to the number of students. One might, however, place it at from 125 to 150 in each class.

It has not been demonstrated that it is desirable to have a small select body of students, or that such students develop into especially competent men. The conception that a medical faculty can select at the beginning of their course the men who will become great clinicians, great teachers and great investigators is, of course, a childish dream.

The larger medical school, with 500 medical students, has many advantages. Good-sized classes furnish inspiration and enthusiasm for both instructors and students. The students in a large medical school are not so apt to be overcome by the odor of sanctity and a sense of their own importance as are the students in a small select school; and finally, it is easier, other things being equal, to secure and retain outstanding men for the faculty in the larger than in the smaller school. I feel strongly that a medical school in a state is a very important stimulus for better medical work in that state, from every point of view; that it means better medical practice, better public health work and an improvement in the standards of medical education and medical practice, generally. From that point of view, I believe that we should recognize the fact that the development of a medical school should be encouraged in every state which does not possess one, where the conditions warrant; that this development should be made, and that we should recognize and assist in the development of such a school even though it must begin in the small way, with limited facilities and with limited funds. In this rapidly growing country, most of these smaller schools will in time develop into strong institutions and I believe they should be given every encouragement and support.

THE UNDERGRADUATE MEDICAL CURRICULUM

It is not necessary to consider the undergraduate medical curriculum in detail. There are, however, some fundamental principles which I desire to emphasize:

The purpose of the undergraduate curriculum is to train men for the practice of medicine, and the course must be constructed, and the work carried on, with that end in view. It is not for the purpose of training men in anatomy or physiology or some clinical specialty. What the medical student needs is a working knowledge of those portions of anatomy, physiology and pathology which are essential to him in the practice of medicine, and these subjects should be taught him with that conception constantly in mind. With the limited time that can be devoted to these subjects it is impossible to teach him more than the simple working knowledge of the clinical aspects of these subjects. A complete training in these sciences must be individual and special and must be secured in graduate study.

It must be made plain to the medical student at the very beginning of his course that he is studying medicine, and for this purpose he should very early be brought in contact with patients, with the clinic. The French medical course, where the student devotes his mornings to the hospital from the day he enters the medical school, is probably not the best solution.

The American medical student could probably obtain the desired medical and clinical point of view by attending from the beginning of his course two hours of clinical work in general medicine and two hours of general surgery each week. These clinics should be given, not by a junior assistant, but by either the head of the clinical department or some broadly trained associate.

In each clinical department, the backbone of the course should be the teaching clinic of the chief. In each clinical department it will be necessary to teach the anatomy, physiology, pathology and pharmacology involved in each clinical case as well as the sciences of diagnosis and therapy. The dispensary should be used as a most important factor in clinical teaching. In their senior year, the students should be a large part of their time in the hospital in direct contact with patients, acting as externs or clinical clerks.

THE HOSPITAL INTERN YEAR

Nowhere in the world has the hospital intern year been more generally adopted or been developed into such a valuable part of the medical course as in America. Much more than 90 per cent of American medical students serve a year or more as interns in the hospital before beginning practice.

Many medical schools and many state boards make it a requirement for examination for licensure. This requirement should be made by all state boards and all salaries of the teachers must be borne by the university. On the other hand, the cost of building and maintaining hospitals, dispensaries and clinical laboratories must be borne by the community.

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In the organization of the strong universities in central Europe, the clinical teachers occupy the dual position of university teacher and great consultant. They are first and last, and all the time, devoting their energies to clinical teaching and clinical research, and while they are doing this, they serve as great consultants in special fields and serve all classes of the community. They very properly receive, from those who can pay, remuneration for their services. The patient who occupies a private room may be quite as important a factor in a piece of clinical research and in clinical teaching as the patient in a ward bed. As a matter of fact, private-room patients furnish more unusual and difficult problems than do ward patients. They often present obscure cases and are sent to the consultant from great distances.

I want to repeat here what I have said before, that the best teaching hospital is a great general hospital which cares for all classes—the poor, the charity cases, those of quite moderate means who pay part of the cost of their care, and the well-to-do who pay the cost and more than the cost of their care. It seems difficult for some minds to comprehend the fact that a great clinical teacher can spend his life in the wards and private rooms and laboratories of a hospital and receive compensation from some of his patients, possibly a third of them, and yet be the highest type of university professor, devoting his life to clinical teaching and clinical research, just as completely as does the physiologist in his class room and his laboratory.

It is very desirable to have consulting rooms at the teaching hospital, making it possible for the clinical teachers to do practically all their work in one institution. The clinical faculty should receive fair compensation for their services, certainly not more, possibly not as much as the teachers in the laboratory branches. A large part of the budget of a clinical department should be devoted to the younger men who are devoting their time to teaching and research work and acting as assistants in clinical work to the professors and associate professors.

The heads of the clinical departments, especially those of medicine and surgery, should be very broadly trained men, let us say of the Osler or Billroth type, and not men limited to some narrow field of medicine. These broadly trained men are of especial value in teaching undergraduate students.

THE STUDENTS

The preliminary education required has been fairly generally agreed to by medical schools of the university type for many years, at least since the time of Billroth and his small monograph on medical education, "Lehren und Lernen," which was published in 1875.

This requirement has been a secondary school education plus, at least, a year's training in physics, chemistry and biology. In this country the requirement which has been almost unanimously agreed on is that of the high school, plus a premedical course of two years in the university, largely in physics, chemistry and biology. With this minimum, plus four years in the medical school and the year or more as an intern in the hospital, we have developed a medical course which graduates the student into medicine at about 28 years of age on the average, as the Council on Medical Education first pointed out some years ago.

It is true that the normal boy, without any interruptions of any kind, can enter school at 6 years, remain eight years in the primary school, remain in high school four years and enter college at 18, finish his two years of premedical work at 20, enter the medical school and finish his four-year course and hospital year at 25. This would be a very desirable age at which to enter medical practice. As a matter of fact, however, our present scheme, because of interruptions and because many students take the full four-year college course, results in finishing the intern year at an average of 28 plus. This is a serious matter and should be corrected by the general adoption of the six-year combined course and by cutting out two years in the primary and secondary school work, so that we could graduate our medical students at 25 years of age. The Council is keenly alive to the importance of this matter. The movement is well under way, and with the proper cooperation between the primary and secondary schools, and the university and the medical school, we should be able to reduce within eight or ten years the average age of completing the medical training to between 25 and 26 years.

This reduction in age, however, should not be brought about by lowering requirements in any way. Plans suggested to reduce the preliminary requirements and the length of the medical course cannot be seriously considered, and will not be considered by the universities, the medical schools or the state licensing boards, or state legislatures.

Several years ago, when such a plan was proposed in Kentucky by one of the most influential medical men in the state, the legislative committee to which it was referred rejected it almost unanimously, after hearing evidence from both sides.

The question of the number of students in a medical school is an important one. It is, of course, a mistake to maintain a medical department for a very small number of students, say twenty-five in each class. I doubt very much whether it is wise, whether it is worth while, to conduct a medical school with less than fifty students in each class. On the other hand, it is unfortunate to have more students than can be properly taught. It is difficult to place a definite limit to the number of students. One might, however, place it at from 125 to 150 in each class.

It has not been demonstrated that it is desirable to have a small select body of students, or that such students develop into especially competent men. The conception that a medical faculty can select at the beginning of their course the men who will become great clinicians, great teachers and great investigators is, of course, a childish dream.

The larger medical school, with 500 medical students, has many advantages. Good-sized classes furnish inspiration and enthusiasm for both instructors and students. The students in a large medical school are not so apt to be overcome by the odor of sanctity and a sense of their own importance as are the students in a small select school; and finally, it is easier, other things being equal, to secure and retain outstanding men for the faculty in the larger than in the smaller school. I feel strongly that a medical school in a state is a very important stimulus for better medical work in that state, from every point of view; that it means better medical practice, better public health work and an improvement in the standards of medical education and medical practice, generally. From that point of view, I believe that we should recognize the fact that the development of a medical school should be encouraged in every state which does not possess one, where the conditions warrant; that this development should be made, and that we should recognize and assist in the development of such a school even though it must begin in the small way, with limited facilities and with limited funds. In this rapidly growing country, most of these smaller schools will in time develop into strong institutions and I believe they should be given every encouragement and support.

THE UNDERGRADUATE MEDICAL CURRICULUM

It is not necessary to consider the undergraduate medical curriculum in detail. There are, however, some fundamental principles which I desire to emphasize:

The purpose of the undergraduate curriculum is to train men for the practice of medicine, and the course must be constructed, and the work carried on, with that end in view. It is not for the purpose of training men in anatomy or physiology or some clinical specialty. What the medical student needs is a working knowledge of those portions of anatomy, physiology and pathology which are essential to him in the practice of medicine, and these subjects should be taught him with that conception constantly in mind. With the limited time that can be devoted to these subjects it is impossible to teach him more than the simple working knowledge of the clinical aspects of these subjects. A complete training in these sciences must be individual and special and must be secured in graduate study.

It must be made plain to the medical student at the very beginning of his course that he is studying medicine, and for this purpose he should very early be brought in contact with patients, with the clinic. The French medical course, where the student devotes his mornings to the hospital from the day he enters the medical school, is probably not the best solution.

The American medical student could probably obtain the desired medical and clinical point of view by attending from the beginning of his course two hours of clinical work in general medicine and two hours of general surgery each week. These clinics should be given, not by a junior assistant, but by either the head of the clinical department or some broadly trained associate.

In each clinical department, the backbone of the course should be the teaching clinic of the chief. In each clinical department it will be necessary to teach the anatomy, physiology, pathology and pharmacology involved in each clinical case as well as the sciences of diagnosis and therapy. The dispensary should be used as a most important factor in clinical teaching. In their senior year, the students should be a large part of their time in the hospital in direct contact with patients, acting as externs or clinical clerks.

THE HOSPITAL INTERN YEAR

Nowhere in the world has the hospital intern year been more generally adopted or been developed into such a valuable part of the medical course as in America. Much more than 90 per cent of American medical students serve a year or more as interns in the hospital before beginning practice.

Many medical schools and many state boards make it a requirement for examination for licensure. This requirement should be made by all state boards and all medical schools in the interest of the public. No one should be permitted to practice medicine who has not had the practical experience of serving for at least a year as a hospital intern.

It has now been shown by the experience of a number of years that this hospital year requirement is perfectly practical and of great value. It can best be administered by a special committee of the faculty, known as the fifth-year committee. Medical schools and state licensing boards who desire to adopt this requirement can obtain the details of the plan either from the Council or from Dr. James B. Herrick, the chairman of the fifth-year committee of Rush Medical College.

The question whether we should require a rotating service or a single service for the fifth year is one still under discussion. I myself do not think we should be too rigid in this matter. Many of our best teaching hospitals, such as Peter Bent Brigham, Johns Hopkins, Lakeside in Cleveland, Barnes in St. Louis and the Presbyterian in Chicago, have the single service system. The students themselves prefer the rotating service. I believe that the medical schools and state boards should accept both types of services, provided they are of the required standard and given in acceptable hospitals.

THE TRAINING OF THE SPECIALIST (GRADUATE AND POSTGRADUATE MEDICAL COURSES)

The subject of the training of specialists has been carefully considered by the Council and discussed fully in annual conferences and a general agreement has been reached: such training requires three years of graduate work best carried on as assistant in a well organized clinic. The student serves as an apprentice under a master workman. The graduate student will be fortunate if he does his work in a clinic of a large general hospital which takes care not only of charity cases but also of part-pay and full-pay cases, so that he is brought in contact with all classes.

A medical school which enters this field of postgraduate work on a large scale should build up in connection with its teaching hospital a diagnostic clinic, such as the Mayo Clinic, as such a plant is of the greatest value in postgraduate work. It is also desirable to secure endowments for fellowships which will enable worthy students of small means to pursue their postgraduate studies. It is very important to develop review courses for practitioners as a part of postgraduate instruction.

Table 1.—*Cost of a Medical School Plant*

Six laboratory buildings (anatomy, physiology, pathology, bacteriology, pharmacology and biochemistry)	$1,000,000 to	$2,000,000
The medical school building for the clinical branches, clinical and research laboratories, administration, medical library, etc	500,000	1,000,000
Total	$1,500,000	$3,000,000

COST OF THE PLANT AND COST OF CONDUCTING A SCHOOL OF MEDICINE

Leaving out of consideration the cost of the land required—from 10 to 20 acres, which may in a large city cost a large sum of money—the cost of a perfectly developed medical school plant might be approximated as in table 1.

The cost of building and conducting the teaching hospital and dispensary should not be a charge on the medical school, but a charge on the community. We might, however, estimate this as a matter of interest and also as an argument against the university assuming the burden. A 500-bed hospital, such as the Presbyterian in Chicago, costs more than $3,000,000, and has also an endowment of more than $3,000,000. The Cook County Hospital, in which my own department has eight very competent attending men teaching surgery, has 2,500 beds, and will shortly have 3,500 beds. The cost of the completed hospital will be more than $10,000,000; maintenance, more than $2,000,000 a year at 5 per cent, equivalent to an endowment of $40,000,000.

These great hospitals are of enormous value in teaching medicine. One of the men in my department has charge in the Cook County Hospital of a fracture ward with from ninety to a hundred cases. A teaching material in this important field of work which no university-owned hospital could possibly duplicate and the postmortem and pathologic material in a hospital of from 2,500 to 3,500 patients is invaluable.

Without charging any hospital or dispensary cost, the annual cost of conducting a well developed medical school with 500 students might be estimated as in table 2.

Table 2.—*Annual Cost of Conducting a Medical School*

The total budget of the six laboratory branches	$150,000 to	$250,000
The [illegible]	100,000	150,000
The [illegible]	15,000	30,000
Heat [illegible]	50,000	70,000
Total	$315,000	$500,000
From this deduct the income from students (500 at $300 a year)	$150,000	$150,000
Total	$165,000	$350,000

If we take the cost of the plant and capitalize the endowment required at 5 per cent, it will require the amount given in table 3.

Table 3.—*Capitalization of Endowment*

Cost of [illegible]		to $ 3,000,000
Endowm[illegible]		
Endowment required to raise $350,000 a year		7,000,000
Total	$4,800,000	$10,000,000

This represents fairly well the cost of building and maintaining a first-class university medical school; and this is without charging to the medical school the cost of building and maintaining hospitals and dispensaries, or conducting the clinical departments on the so-called full-time clinical basis.

If the grave error of building and maintaining a 500-bed full charity hospital and outpatient department is made, and the clinical faculty placed on a full-time basis, it would add to the foregoing estimate the amount given in table 4.

Table 4.—*Extra Cost of Charity Hospital*

Building of a 500 bed hospital and dispensary	$ 3,000,000
Cost of maintenance as a charity hospital, $500,000 per year, at 5 per cent, an endowment of	10,000,000
Placing clinical faculty on full time basis would add probably $150,000 a year to cost of conducting the school, at 5 per cent, an endowment of	3,000,000
Total of	$16,000,000*

* A prohibitive sum

On a sound scheme of organization, a first-class university medical school, cooperating with the community, can be built and conducted at a total cost, capitalizing the endowment necessary to pay running expenses, of from $5,000,000 to $10,000,000.

On the badly conceived scheme of organization in which the university builds and maintains hospitals and dispensaries, and adopts the full-time clinical scheme, from $16,000,000 to $25,000,000 would be required, a cost that would never be seriously considered by a board of university trustees composed of men of good judgment and good business sense.

There is another fact that must be considered: The evidence at hand seems to show not only that the medical schools the world over which have been developed on the sound scheme of taking the community in as a partner and using the hospitals and dispensaries, supported by the community, as teaching hospitals cost much less, but that the strongest and best medical schools have been developed on this basis.

The future American medical schools will be developed by the cooperation of the university and the community, and will be conducted with the conception of not only teaching medicine and carrying on medical research, but also as institutions which will bring to the community the great benefits of modern scientific medicine.

ELECTROTHERMIC METHODS IN TREATMENT OF NEOPLASTIC AND ALLIED DISEASES *

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One who depends on a single method in the treatment of malignant diseases may not hope to obtain anything but a limited degree of success.

Experience has taught that operative surgery, electrothermic methods, radium and roentgen rays are all factors of such importance that none of them can be eliminated. All these methods are employed in our hospital, either alone or in combination, to meet particular indications, and if it was necessary to eliminate any one of them, we would be seriously handicapped. We hold no brief for any particular method, but experience has demonstrated the extreme importance of electrothermic methods, which, through a misunderstanding of them, have not yet taken their rightful place in surgery. We consider them second to none, and in many emergencies, superior to all the others.

My object in this paper is to emphasize the importance of electrothermic methods without detracting from the others, devoting it to a discussion of the rationale, instrumentation, technic, clinical findings and histologic findings, with indications for and the contraindications to their employment. The types of cases in which these methods stand supreme will be stressed and a sound basis for their employment demonstrated, with the hope of encouraging serious consideration of their unique advantages.

ELECTROTHERMIC METHODS

Two tissue changes produced by high frequency currents will be considered. These are classified descriptively, in accordance with the actual effects produced in the tissues, as desiccation and coagulation.

The desiccation method is one by means of which benign or malignant growths of small or moderate size may be destroyed by the utilization of heat of just sufficient intensity to desiccate or dehydrate the tissues. The heat is produced by a monopolar high frequency current of the Oudin type, the current being conducted to the lesion by means of a steel needle or other pointed metallic applicator. A single spark gap is usually employed in the circuit, although a good multiple gap may be used. The desiccation effect, as originally described, was produced by a high tension static current transformed into a high frequency current of suitable quality by means of Leyden jars of sufficient capacity, and a resonator supplying the proper inductance. However, since the advent of the modern transformer type of high frequency machine, it has been found that desiccation can be satisfactorily produced with the latter apparatus. The principal disadvantage of the former lay in the fact that static currents, being influenced by atmospheric conditions, were often not available in humid weather. High speed static machines are expensive and occupy considerable floor space. Modern high frequency apparatus is, on the other hand, compact, comparatively inexpensive, and uninfluenced by weather conditions.

There is an impression among many that the desiccation and the coagulation methods are one and the same. This is an error, since the effects produced on the tissues are quite different, and can readily be demonstrated both clinically and histologically. The Oudin current, by which desiccation is produced, is of relatively high voltage and low amperage, whereas the d'Arsonval current, by which coagulation is produced, is of lower voltage and higher amperage.

A milliampere meter cannot be used to measure accurately a monopolar current. The proper current strength necessary to destroy growths of different types and sizes can be learned only by experience. The desiccation effect may be produced in the tissues by delivering the current through a short air space, by just touching the surface, or by inserting the needle more or less deeply, depending on the degree of destruction desired.

The desiccation method is used advantageously when the lesion is localized and when good cosmetic results are not only desirable but essential. It is subject to such perfect control that an exceedingly small growth, even on the cornea, may be successfully treated without impairment of vision by the subsequent formation of scar tissue; a small growth on the vocal cords may likewise be destroyed without impairing the voice. The comparatively slight trauma to the tissues and the mild secondary inflammation explain, from a histologic standpoint, the slight scarring and the success obtained in treating these delicate structures.

Other conditions successfully treated by the desiccation method are localized benign growths of the larynx, bladder or rectum. Equally good results are obtained in lesions as refractory as corneal ulcers, pterygium and trachoma. Minor gynecologic conditions, such as cervical erosions and urethral caruncles, yield readily to desiccation treatment. Moles, papillomas, angiomas, nevus pigmentosus, leukoplakia, lupus vulgaris and lupus erythematosus further exemplify the great variety of pathologic conditions in which this method may be used successfully. The desiccation method is also an important factor in the treatment of malignant lesions of the skin and mucous membranes.

It is further desirable to give especial mention of this method in the treatment of hemorrhoids and infected tonsils. These subjects have been treated in separate papers and need not be discussed in the present one.

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* From the clinical and research departments of the Clark-Bass Hospital.

* Abstracted from a Mayo Foundation lecture delivered at the Mayo Clinic, Rochester, Minn., April 9, 1924, and also read before the American Academy of Physiotherapy in Boston, Oct. 16, 1925.

Coagulation is produced by a bipolar high frequency current of the d'Arsonval type, a multiple spark gap being utilized. It is more penetrating and intense than the desiccation method, and in accessible locations is utilized to destroy larger growths, even those involving bone.

There are many variations of technic in the application of this method to suit the requirements of the individual case. These cannot very well be described, but must be learned from practical experience. The active electrode should always be pointed. Steel sewing needles of various lengths may be employed; if still greater length is required, steel knitting needles or stiff wire cut to any length may be used, either straight or curved, so as to be adapted to particular anatomic locations. Since the effect of high frequency currents is entirely thermic, and not electrolytic, it matters not what particular metal is used. As it is impossible thoroughly to insulate these electrodes, care must be taken that only such tissues as are undergoing treatment shall be touched. The indifferent electrode, which is necessary in this method, may be of any material that will conduct electricity, such as a metallic plate or, preferably, a moistened asbestos pad. This should be placed in close contact with the skin of the patient's back. Both the active and the indifferent electrodes are connected by insulated wires to either side of the d'Arsonval winding of the high frequency machine. Good contact in all the circuit connections is of great importance. A meter should be connected in this circuit as a guide to the current strength employed, which varies from about 200 to 2,500 milliamperes, according to the size of the growth to be treated. The meter is not an infallible guide in estimating the action of the current, since the reading is also influenced by the size of the patient under treatment, or, in other words, by the amount of resistance in the circuit.

Doyen's method of coagulation consisted in the use of a blunt metallic electrode on the growth and of another of the same or larger size at some point near the growth. It has been found that the control by this technic is imperfect, and experience has taught that the pointed active and the large passive electrode is a superior method of application. While the current is passing, the needle may either touch the surface of the growth or be inserted into it, depending on the depth of destruction desired. In pedunculated growths, a metal snare may be used to advantage as the active electrode. As already stated, the d'Arsonval current, by which coagulation is produced, is of relatively low voltage and high amperage. If a short air space intervenes between the growth and the needle, the current will be conducted to the tissue in the form of convective sparks which sometimes approach the intensity of a flame, depending on the frequency of the oscillations in the current. Under such circumstances, the coagulation will be superficial. On the other hand, if the active electrode remains in contact with the growth, heat will be generated in the tissues without the production of sparks. Under these conditions the tissues will be deeply coagulated, the actual depth depending on the duration of the application. Better control of this can be accomplished by inserting the needle into the tissues to the desired depth. Unlike the heat generated by these high frequency currents, that produced by the actual cautery is comparatively superficial in action. The former is generated within the tissues by their resistance to the current, while the latter is merely transmitted by contact.

Whether the desiccation or the coagulation method is employed, the aim should be to destroy the growth at a single operation. The devitalized tissue should, as a rule, be immediately removed either by excision or by curettage, which usually may be accomplished without hemorrhage. If necessary, the base may then receive further treatment. When the mucous surfaces are involved, owing to the greater danger of secondary hemorrhage in these localities, the destroyed tissue is, with few exceptions, allowed to separate slowly. Bone that has been treated will sequestrate in about six weeks if a current of sufficient intensity has been employed. If important blood vessels are implicated, it is a safe procedure to ligate them preliminary to treatment.

In dealing with localized benign or malignant lesions, the superiority of the electrothermic methods over irradiation is shown by definite histologic changes and by comparison of permanent clinical results. With electrothermic methods, only diseased tissue is destroyed, the vitality of the surrounding normal structures being conserved. Subsequent treatments, should they be necessary, offer as good prospects of success as though the tissue had not received previous treatments. On the other hand, with irradiation of sufficient intensity to influence a malignant growth, it is impossible not to lower the vitality of the surrounding normal tissue to a certain extent; in case of recurrence, little more can be hoped for from further irradiation, owing to the resulting fibrous changes. This is a fact well known to radiologists. Because of these resulting changes, irradiation should not be used in conjunction with electrothermic methods in localized benign or malignant lesions. There are many cases in which the electrothermic methods are not applicable and in which irradiation is preferable, but our experience has been such that we feel very strongly that the electrothermic methods alone should be used in the type of lesion mentioned.

High frequency machines, as devised by different manufacturers, vary greatly in construction; hence there is a corresponding variety in the quality of the currents produced. The thermic intensity is often too great or too little, and an undesirable faradic effect, producing shocks and contraction of the tissues, is experienced when improperly constructed machines are used. This lack of standardization is unfortunate, since, to produce the desiccation or coagulation effect under the best conditions, a very accurate balance must be maintained between the voltage and the amperage, and also between the capacity, inductance and resistance. Thus, different operators, employing different types of apparatus, may obtain different results. A machine giving a satisfactory therapeutic current may not be suitable for good surgical work. We have found it necessary to have machines constructed according to definite specifications, to enable us to obtain the various factors necessary for our particular requirements. Even with a machine constructed on correct lines, the difficulty of application lies principally in the acquirement of a proper technic. Much harm can be done by an operator without practical knowledge of the various factors involved. This warning is timely, since a considerable number of cases come under our observation that have been improperly treated with high frequency currents. We have heard these methods condemned by capable surgeons who have employed them, but on studying their technic, it has been easy to comprehend the reasons for their dissatisfaction with the results obtained. One who sincerely studies these methods cannot fail to be impressed with their merits.

Electrothermic methods can be best practiced only by those who have had surgical training and experience. They are quite as surgical in practical application as operative surgery, requiring the same precise knowledge of anatomic landmarks and the same surgical judgment that every good operator must have. The probable reasons for the apathy that exists in regard to these methods are that surgeons do not realize their potency and that those who use them without surgical accomplishments frequently fail in their practical application.

The efficiency of these methods is increased in some cases by the judicious combination of operative surgery, radium and the roentgen rays. Electrothermic methods should be used alone only in localized tumors of a type that does not tend to metastasize. The basal cell type of epithelioma occurring on cutaneous surfaces, such as the face and eyelids, even though extensive, and with involvement of bone, may be so thoroughly treated by the desiccation or coagulation method that recurrences are infrequent.

In localized squamous cell epitheliomas on cutaneous surfaces or mucous membranes, the results obtained are almost as good as in the basal cell type. However, when the growth is no longer localized and metastasis has occurred, other methods must be used in addition. A fair measure of success is obtained even in these cases. The grading of tumors according to Broder's method gives some indication as to prognosis and has an influence on the choice of treatment.

Electrothermic methods are peculiarly adapted to the treatment of localized malignant growths occurring in any part of the oral cavity. In the treatment of growths of the urinary bladder and larynx, suitable endoscopes must be employed to render the growth accessible for treatment. The choice between local or general anesthesia is governed by the same principles as in operative surgery.

As an example of an operation by the coagulation method, amputation of the tongue will be described. If the case is far advanced, with considerable general emaciation, it is our practice to do a preliminary gastrostomy. This has several advantages; namely, it permits of the building up of the patient's strength, relieves the pain incident to swallowing, and frequently results in a considerable reduction of the swelling and induration in the tongue and pharynx following the rest given to these parts. The tongue can be coagulated readily through its base and then excised, with infrequent secondary hemorrhage; but to obviate these dangers completely, it is considered safer to do a preliminary ligation of the lingual, or of one or both of the external carotid arteries. Ether anesthesia is employed. The ether should be removed from the room when the patient is fully under its influence and before the current is applied, else it might ignite. Should the operation be unusually prolonged and the patient show signs of regaining consciousness, the operation may be temporarily discontinued as often as required, and ether again administered. As a rule this operation is of such short duration that the use of ether a second time is not necessary. Scopolamine, $\frac{1}{100}$ grain (0.6 mg.), and morphine, ¼ grain (16 mg.), may in some instances be used hypodermically one hour before the administration of ether. Less ether will be necessary under such conditions and the immediate postoperative discomfort minimized.

After the jaws have been separated with a mouth gag, a heavy silk suture is passed from side to side through the tip of the tongue, by means of which it is drawn well forward. The coagulation needle is then brought in contact with the anterior surface of the tongue as far back as is necessary, and the current turned on, either by the operator by means of a foot control, or by an assistant on signal. The needle is then moved across the tongue and carefully inserted into it at different points, coagulation being allowed to take place as it moves. After this has been thoroughly accomplished, the tip of the tongue is elevated by means of the suture, and a straight, sharp sewing needle of proper length is substituted for the curved knitting needle previously used. The frenum is then coagulated, and the needle inserted between the tongue and the floor of the mouth. When coagulation is again completed, curved scissors may be used to cut through the coagulated areas on both surfaces, and the tongue then separated from its attachments. After-treatment consists of simple antiseptic mouth washes and the application, two or three times daily, of a weak solution of sodium hypochlorite, which sterilizes, deodorizes and tends to keep the slough firm and free from maceration. Care should be taken not to remove the slough prematurely, else secondary hemorrhage may occur. When a preliminary ligation has been performed, this, of course, is not so much to be feared. Such a major electrothermic operation should be performed in a well appointed operating room, the same preparatory technic being used as in any surgical operation.

In addition to the desiccation or coagulation of the affected tissues and the sealing of blood and lymph channels, the heat penetrates beyond the area totally destroyed and devitalizes malignant cells, without permanently impairing the healthy tissue, thus lessening the likelihood of local recurrence or metastasis, and conserving the maximum amount of normal tissue. Malignant cells, especially those that are least differentiated, are more vulnerable to heat, and are devitalized at a lower degree of heat than are normal cells. This thermic sensitiveness to the action of the high frequency current has often been observed clinically and demonstrated histologically. The success obtained in the treatment of malignant disease by the desiccation and coagulation methods is explained by the fact that all the malignant tissue was, when possible, destroyed with one radical treatment. The practice of intentionally treating a malignant lesion by a series of desiccation or coagulation operations is reprehensible and must be discouraged. It is quite as irrational to do this as to expect success by excising surgically a cancerous growth in a series of operations.

HISTOPATHOLOGIC STUDIES

In the vast majority of instances, histologic studies of neoplasms are limited to diagnosis. Since the advent of radium and the roentgen ray, not a little attention has been given to the changes in the tissue following the use of these agents; namely, the hydropic and fatty metamorphosis of the cytoplasm, the pyknotic nuclei, the round-cell infiltration, and the vascular and fibroblastic changes. As far as is known, no studies have hitherto been made of the histologic changes that have followed the use of the desiccation and the coagulation methods. During the routine of tissue examination for diagnostic purposes, the appearance of the cells submitted to desiccation and coagulation was observed to be entirely unlike those treated with radium and roentgen rays. This led to further investigation.

Clinically summarized, the aim of the electrothermic methods is to destroy malignant cells, to seal blood vessels, and obtain a healing wound with the least amount of cicatrization.

In order to correlate the histologic findings with the clinical results obtained, microscopic examination of tissues submitted to desiccation and coagulation treatment was undertaken. The material used consisted chiefly of epitheliomas (basal and squamous cell type) and normal tissues of laboratory animals. The investigation entailed the study of the effect of the current on the cells and blood vessels in the immediate and remote areas of the fields of operation. The histologic pictures obtained were so well defined and uniform as to stamp them with certain characteristics. The cells submitted to desiccation treatment were shrunken and shriveled, and their nuclei condensed and elongated, with a suggestion of cell outline; the whole had assumed a mummified appearance. The blood vessels were thrombosed, and there were no evidences of hemorrhage. In the case of coagulation, the cell outline was entirely lost, and the affected tissue elements were fused into a structureless homogeneous mass, presenting an appearance not unlike that of hyalinization.

Because the tissues examined were those obtained at the operating table, no opportunity was afforded to observe the cell reaction likely to occur in the zone adjacent to the area treated. Guinea-pigs and rabbits were used for this purpose. Small areas of skin, subcutaneous tissue and muscle were submitted to desiccation or coagulation treatment and the animals returned to their cages. Several days later sections were removed for study. They revealed practically the same tissue changes already noted, but, in addition, there was round-cell infiltration in the outlying zones; in certain areas this infiltration was localized around the blood vessels.

These are the fundamental principles of pathology on which the histologic studies were based, and it is in this sense that tissues treated by electrothermic methods present histologic pictures that are of such uniformity and constancy as to endow them with specific histologic characteristics; namely, the shrunken and elongated appearance of the cells and their nuclei, the round-cell *infiltration in the case of desiccation, the* complete loss of cell outline and hyalinized appearance of the tissue, and thrombosis of blood vessels and round-cell infiltration in the case of coagulation.

The electrothermic methods are dependent for their results on the resistance of the tissues to the current, which manifests itself in the formation of heat.

In the case of desiccation, the current is of comparatively low amperage and only a moderate degree of heat is produced; it is of sufficient intensity, however, to cause complete evaporation of the water content of the cells and to give them their mummified appearance. Since the mode of cell death is associated with very little degenerative change and scant disintegrated material, there is only a small amount of fibrous tissue as an end-result; hence the good cosmetic results. Incidentally, the neighboring healthy tissues are spared the devitalization resulting from the formation of abundant contractile fibrous tissue. The coagulation method, requiring a higher amperage, induces a more intense heat, so that it not only dehydrates the tissues, but causes coagulation of the cell protoplasm. This greater degree of destruction results, as we have learned to expect, in a proportionately greater amount of fibrous tissue formation.

Thus, not only are the aims attained, as stated at the outset, but the electrothermic methods are placed on a histologic basis and correlated with clinical results.

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HILUM TUBERCULOSIS

RELATIVE VALUE OF SYMPTOMS, PHYSICAL SIGNS AND ROENTGEN-RAY FINDINGS IN THE DIAGNOSIS OF BRONCHIAL GLAND TUBERCULOSIS *

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In the weekly report of the state health department to the *Boston Medical and Surgical Journal*[1] appears for the first time the item, "Tuberculosis, hilum, sixty-one cases." This, of course, is a direct result of the activity of the Massachusetts Department of Public Health in finding bronchial gland tuberculosis among the school children of the state. This means that the disease is now recognized as an entity and that it can be diagnosed with more or less certainty.

In order to realize fully the significance of this report, it is necessary to trace briefly the history of this disease. Up till 1910-1911, it was generally accepted that tuberculosis begins at the apex of the lung, particularly the right apex. Already there were those, however, who believed in pulmonary lymphatic tuberculosis, some holding that it was primary, and some, secondary to a pulmonary lesion. Lymph gland tuberculosis was thought to be of little importance.

At the present time, the preponderance of evidence is for the theory that the tuberculous infection begins early in childhood and shows its first clinical manifestation in the hilum glands; spreads in a retrograde fashion upward and outward into the lung parenchyma, and is later recognized as pulmonary tuberculosis, as it is ordinarily found in the adult.

While pathologists were debating the primary focus, d'Espine[2] called attention to a physical sign which, he believed, was due to enlarged tuberculous bronchial glands. He appreciated, however, that acute infections (measles, whooping cough and mumps) may give rise to enlarged glands in this region; but he regarded these glands as tuberculous only if the sign persisted six months or more after recovery from such acute disease. Assmann[3] gives de la Camp and Kohler the credit for being the first to diagnose this condition by roentgen ray (1904-1906).

At a meeting of the American Sanatorium Association in December, 1922, a committee headed by Dr. H. D. Chadwick[4] defined the term "hilum tuberculosis" and recommended its addition to the present classification. This was accepted by the association at its annual meeting of the current year.

This term as defined by the committee applies to those cases of tuberculosis in children who present the following symptoms and physical signs controlled by the Pirquet reaction and roentgen-ray findings.

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* Based on a study of 2,285 school children.

* From the Massachusetts Department of Public Health.

[1] Report of the Massachusetts Department of Health, Boston M. & S. J., July 9, 1925.

[2] D'Espine, A.: The Early Diagnosis of Tuberculous Bronchial Adenopathy in the Child, Brit. M. J. **2**: 1136, 1910.

[3] Assmann, H.: Die klinische Röntgendiagnostik der innern Erkrankungen, Leipzig, 1922.

[4] Chadwick, H. D.: Tuberculosis in Children, Boston M. & S. J. **191**: 58 (July 10) 1924; The Evolution of Juvenile Tuberculosis, ibid. **191**: 252 (Aug. 7) 1924; Proposed New Classification of Juvenile Tuberculosis, ibid. **191**: 1069 (Dec. 4) 1924.

Symptoms.—Local: Frequent "colds," cough, hoarseness, rarely loss of voice. All may be absent and, when present, are usually transitory.

Constitutional: Undue fatigue, lassitude, nervous irritability, anorexia, weight normal but more often subnormal, retardation of growth, rarely loss of weight, tendency to profuse perspiration without apparent cause, occasionally brief periods of unexplained elevation of temperature (above 99.6 F., rarely over 100.5 F.), flabby muscles, fatigue posture, phlyctenular disease (keratitis, conjunctivitis), scrofuloderma and lupus.

Physical Signs.—Paravertebral dulness; voice and breath sounds normal. Râles are rarely found, and, when present, are due to causes other than tuberculosis.

Roentgen-Ray Findings.—1. Prominent bronchial trunks with definite beaded appearance or nodular in outline extending from the hilum

2. Enlarged lymph nodes, varying in number and density, embedded in the thickened tissue of the hilum.

3. Diffuse shadows of varying density throughout the hilum Occasionally there are cloudy masses with irregular outlines projecting into the adjacent tissue, resulting from involvement of the deep parenchyma.

Dr. J. B. Hawes,[5] however, points out a lack of agreement between clinicians, on the one hand, and radiologists, on the other, as to what factors enter into a diagnosis of this condition. He says: "The whole subject of diagnosis is still in a stage of doubt and uncertainty. Signs at the best are unreliable and x-ray evidence at present of little value. Diagnosis should be based on history, exposure, positive Pirquet and constitutional signs and symptoms" On the other hand, Chadwick,[4] Barjon,[6] Shennon,[7] Potter,[8] Rieder,[9] Fisher,[10] von Ohlem,[11] Planner,[12] Simpson,[13] Honeij,[14] and Méry and Girard [15] believe that a diagnosis can be made by clinical methods controlled by roentgen ray and the tuberculin test.

This study is based on 2,285 cases. A reactor group (positive Pirquet reaction) of 1,176 cases is compared with a nonreactor group (negative Pirquet reaction) of 1,109 cases. In the reactor group are 472 boys and 704 girls. In the nonreactor group are 430 boys and 679 girls. The ages are from 6 to 15.

Tables 1 and 2 present the evidence showing the relative value of symptoms.

Table 1 shows that there is some slight difference with regard to the frequency of the first four symptoms; namely, frequent "colds," poor appetite, tendency to tire easily, and nervousness, when the reactor group is contrasted with the nonreactor group. There is, however, a decided difference with regard to underweight, which is not only a subjective but also an objective symptom. In 64.3 per cent of the reactor group, 7 per cent or more are found underweight, against 49 per cent of the nonreactor group. It is important to note that 21 per cent of the reactor group are 15 per cent or more underweight, against 11.7 per cent of the nonreactor group.

TABLE 1.—*Comparison of Symptoms in Reactor Group (1,176 Children) and Nonreactor Group (1,109 Children)*

	Reactor Group			Nonreactor Group		
Symptoms	Number	Per Cent		Number	Per Cent	
Frequent colds	322	27.3		252	22.7	
Poor appetite	294	25.0		227	20.4	
Tendency to tire easily	351	29.8		299	26.9	
Nervousness	439	37.2		386	34.8	
Sweating	110	9.3		94	8.4	
Night terrors	78	6.6		56	5.0	
Hoarseness	12	1.0		13	1.1	
Cough	45	3.8		45	4.0	
Underweight *						
7%	212	18.0	64.3%	189	16.1	49.2%
10%	297	25.3		237	21.4	
15%	248	21.0		130	11.7	
Under 7%	419	35.6		553	49.8	

* Baldwin Wood weight-height age tables

Table 2 shows the result of a comparative study of symptoms in those cases diagnosed "hilum," those called "suspicious" and those which were regarded as "negative" Children in the "suspicious" group present some evidence of hilum disease but not enough to make a definite diagnosis. The outstanding symptom in both the "hilum" and "suspicious" groups (as in Table 1) is underweight: 76.5 per cent and 71.8 per cent, respectively, against 58 per cent in the negative group. The other symptoms assume a more definite value These, relative to their frequency, are: a tendency to tire easily, nervous irritability, frequent "colds," sweating, night terrors, cough and hoarseness.

TABLE 2—*Comparison of Symptoms in Hilum, Suspicious and Negative Groups*

	Hilum, 277 Cases			Suspicious, 426 Cases			Negative, 508 Cases		
Symptoms	No	%		No.	%		No.	%	
Frequent colds	101	36.3		121	28.4		119	23.4	
Poor appetite	62	22.3		78	18.2		163	32.0	
Tendency to tire easily	138	49.8		135	31.6		104	20.4	
Nervousness	135	48.7		182	42.7		155	30.5	
Sweating	42	15.1		43	10.0		36	7.0	
Night terrors	28	10.1		26	6.0		29	5.7	
Hoarseness	10	3.6		2	0.4		5	0.9	
Cough	18	6.4		15	3.7		10	1.9	
Underweight									
7%	39	14.0	76.5	80	18.8	71.8	90	17.7	58.4
10%	94	33.9		120	28.1		119	23.4	
15%	80	28.6		107	24.9		88	17.3	
Under 7%	64	23.1		119	27.9		211	41.5	

TABLE 3—*Relative Frequency of Interscapular Dulness*

	Per Cent
Nonreactor group	35
Reactor group	41.9
Hilum	74.0
Suspicious	51.0
Negative	27.7

Table 3 shows the relative frequency of interscapular dulness In the hilum group, interscapular dulness was found in 74 per cent of the cases; in the suspicious group, 51 per cent, and in the negative group, 27.7 per cent In the reactor group as a whole, interscapular dulness was found in 41.9 per cent, against 35 per cent in the nonreactor group.

Table 4 shows the result of a study in the relative value of the factors deemed vital in making a diagnosis of hilum tuberculosis. Individually, these factors in the order of their relative importance are, first, roentgen-ray evidence; second, symptoms, and third, physical signs. The tuberculin test, of course, must be positive. In the final analysis, however, not one factor but all are necessary to make a diagnosis. In 57.3 per cent diagnosis was based on symptoms, physical signs and roentgen-ray findings, and in 18 per cent, on physical signs and roentgen-ray findings. In only 3.9 per cent was the roentgen ray alone deemed sufficient to make a diagnosis. This table shows very clearly that there is a relative value placed on symptoms, physical signs, and roentgen-ray evidence. What the relative value is with regard to symptoms is shown in Tables 1 and 2. Table 5 shows the relative value of roentgen-ray findings.

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[5] Hawes, J. B, Jr., and Friedman, Eli. Bronchial Gland Tuberculosis, Boston M & S J. **192**: 954 (May 14) 1925

[6] Barjon, F. The Radiodiagnosis of Pleuropulmonary Affections, translated by Honeij, J. A, New Haven, Yale University Press, 1918

[7] Shennon, T.: Tuberculosis in Children, Particularly with Reference to Tuberculosis of Lymphatic Glands, Tr 6th Internat Cong. Tuberc **2**: 365, 1908.

[8] Potter, H. E.: X Ray Diagnosis of Tuberculosis of the Lungs and Bronchial Glands, Lectures Before the Robert Koch Society for the Study of Tuberculosis, Chicago, 1916, p 34

[9] Rieder, H · Die fruhzeitigen Erkennung der Lungentuberkulose mit Hülfe der Röntgenstrahlen, Deutsch Arch f klin Med **45**: 62, 1909.

[10] Fisher, E Hilum Tuberculosis in Children and Adults, Lancet **1**: 814, 1919

[11] Von Ohlem Zur Frühdiagnose der hilusdrusen Tuberkulose, Beitr z Klin d Tuberk **45**: 343, 1920

[12] Planner. Wie erfast man die Tuberkulose in der Schule? Beitr z Klin. d Tuberk **55**: 149 (May) 1923

[13] Simpson, R: The Problem of Tuberculous and Pretuberculous Child, Practitioner **112**: 193 (March) 1924

[14] Honeij, J A: Peribronchial Tuberculosis of the Lung, Am Rev Tuberc **9**: 1 (March) 1924; The Importance of Mediastinal Glands, J A M A **57**: 958 (Sept 16) 1911

[15] Mery, H, and Girard, L: Les formes actives des adénopathies tuberculeuses du hile chez l'enfant, Rev. tuberc **1**: 289, 1920

Table 4—*The Relative Value of Factors Deemed Vital in Making a Diagnosis of Hilum Tuberculosis*

	Hilum		Suspicious		Negative	
Diagnosis Based on	No	%	No	%	No	%
1 Roentgen ray evidence only	11	3.9	46	10.7	141	27.7
2 Roentgen ray evidence, physical signs and symptoms	159	57.3	129	30.2	23	4.5
3 Roentgen ray evidence and symptoms	57	20.5	152	25.6	110	21.6
4 Roentgen ray evidence and physical signs	50	18.0	60	14.0	65	12.7
5 Physical signs and symptoms	0	0.0	29	6.8	47	9.2
6 Symptoms only	0	0.0	10	2.3	57	11.2
7 Physical signs only	0	0.0	0	0.0	18	3.5
8 Positive reaction only	0	0.0	0	0.0	47	9.2

The roentgen-ray shadows seen at the hilum of children between 6 and 15 years of age who react to the tuberculin test seem to fall naturally into three more or less definite and distinct groups which may be expressed relatively according to their densities and extent by the numerals 1, 2 and 3, as expressed by Chadwick and Morgan. If, in addition, shadows interpreted as glands (bronchial, mediastinal) are present at the hilum, these in turn may be expressed by 1 +, 2 +, 3 +. Further, if discrete, circumscribed shadows (interpreted as calcified or fibroid tubercle) representing primary foci are present in the lung field, these may be expressed by 1 P or 1 + P, etc.

Table 5—*Relative Importance of Roentgen-Ray Shadows in Diagnosis of Hilum Tuberculosis*

	Hilum	Latent Hilum	Suspicious	Negative	Total
Shadow 1	1	0	33	158	192
Shadow 2	17	1	153	222	393
Shadow 3	8	2	28	21	59
Shadow 1+	3	0	13	19	35
Shadow 2+	97	13	192	71	373
Shadow 3+	67	16	42	6	131
Shadow 1P	1	0	3	0	4
Shadow 2P	8	1	8	0	17
Shadow 3P	4	0	3	0	7
Shadow 1+P	0	0	1	0	1
Shadow 2+P	32	11	7	0	50
Shadow 3+P	27	6	3	0	36
Total	265	50	486	497	1,298

Table 5 shows the significance placed on roentgen-ray shadows. In the cases diagnosed as hilum appear the shadows 2 +, 3 +, 2 + P, 3 + P, etc. In the negative group, on the other hand, appear the shadows 1, 2, 3. It is seen, therefore, that the moderately dense and dense shadows at the hilum, especially with glands and linear markings or calcified glands or tubercle in the deep parenchyma of the lung, most frequently found in the lower and mid-lung areas, rarely at the apexes, are regarded as most significant. This is in agreement with Honeij,[14] Dunham,[16] Rieder,[9] Potter[8] and Pratt and Bushnell.[17]

Table 6 shows a relative study based on such a classification as outlined above. Several points are of interest. Shadow 2 with or without glands, with or without pulmonary infiltration or calcified tubercle, occurs most frequently, and more often at ages 10, 11, 12 and 13. Shadows 1 P and 1 + P are rarely found; nor is this to be expected, if our interpretation of these shadows is correct. For when glandular infection has occurred or is present, the reaction at the hilum would be expected to show on the roentgenogram by 2, 2 +, 3, 3 +, etc., which is indeed the case. Furthermore, out of 1,298 children, 626, or 48 per cent, between the ages of 6 and 15, show glandular enlargement at the hilum. This I consider a point of great significance, for postmortem examinations in children under 15 years of age show similar findings. Sato,[18] in 1,357 necropsies of children under 15 years of age in Japan, found 37 per cent affected, always in the lymph nodes (mediastinal and pulmonary). Babes,[19] in 902 postmortems, found this condition in 32 per cent. Mueller,[20] in 500 necropsies, found 45 per cent, always in the glands.

Table 6—*Relation of Age to Roentgen-Ray Shadow Seen at Hilum of Children from 6 to 15, Who Reacted to Tuberculin Test*

	Age										
	6	7	8	9	10	11	12	13	14	15	Total
Shadow 1	10	14	26	14	22	30	34	18	15	9	192
Shadow 2	10	30	36	26	56	61	60	50	44	20	393
Shadow 3	3	2	8	3	6	5	8	11	8	5	59
Shadow 1+	2	2	2	2	6	3	5	5	4	4	35
Shadow 2+	9	19	32	45	49	62	55	44	39	19	373
Shadow 3+	2	3	11	12	12	23	14	20	23	11	131
Shadow 1P	0	0	0	0	2	1	0	1	0	0	4
Shadow 2P	0	1	5	1	3	3	2	0	1	1	17
Shadow 3P	0	1	0	0	0	1	1	2	1	1	7
Shadow 1+P	0	0	0	0	1	0	0	0	0	0	1
Shadow 2+P	2	1	6	7	6	6	8	7	6	1	50
Shadow 3+P	2	2	5	13	15	2	5	3	8	1	36
Total	10	75	131	113	168	197	192	161	149	72	1,298

COMMENT

Tuberculin Reaction.—It is found that 29.2 per cent of children between 6 and 15 years react to the tuberculin test. (At 6 years, 2.7 per cent; 7 years, 5.4 per cent; 8 years, 8 per cent; 9 years, 9 per cent; 10 years, 12.4 per cent; 11 years, 13.6 per cent; 12 years, 15.6 per cent.) The first figure, 29.2 per cent, applies to the state-wide examination of 10,648 children. I worked out the individual percentages for ages from the 1,176 cases; ages under 6 and over 12 were not included. Opinions vary as to the significance of the Pirquet reaction in children over 2 years of age. On the one hand is the generally held opinion expressed by Pratt and Bushnell,[17] who in their recent book say that the reaction in older children is of little value, as it is not necessarily connected with the condition supposed to indicate tuberculosis. On the other hand, Chadwick[4] and others (Pirquet,[21] Much,[22]

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[16] Dunham, H K, and Skavlem, J H Tubercle **5**: 217 (Feb) 1924

[17] Pratt, J H, and Bushnell, G E Diseases of the Chest, Philadelphia, W B Saunders Company, 1925, pp 226 235

[18] Sato, T Abstracts from Japan M World **4**: 45 (Feb) 1924

[19] Babes, quoted by Harbitz, F Studies in the Frequency Localization and Modes of Dissemination of Tuberculosis, J. Infect Dis **10**: 143, 1905

[20] Mueller, quoted by Cornet, G Die Tuberkulose, p 178

[21] Pirquet, C The Frequency of Tuberculosis in Childhood, Tr 6th Internat Cong Tuberc **2**: 559, 1908

[22] Much, Hans Tuberculosis of Children, New York, the Macmillan Company, 1921

Simpson[13] and Planner[12]) hold that in the presence of a reaction the child should be investigated for powers of resistance or immunity. If the resistance is found subnormal by certain symptoms (subnormal weight for height and age is the most important), by physical signs and by roentgen-ray evidence, these should be corrected by proper dietetic and hygienic treatment, in order to prevent these children from becoming tuberculous adults. Blos,[23] in Czerny's clinic, followed 160 cases showing tuberculous lymph nodes from three to twelve years and found that in 40 per cent secondary tuberculosis developed. Follow-up work among these children will be most instructive on this point. The latter view is the most conservative, and from the point of view of preventive medicine the most practical to pursue. If it is argued that the nonreactors who have never been infected and therefore have no immunity are in greater danger of a primary infection, this is admitted. We can see no better solution for this than to have the family or school physician, with full appreciation of this fact, guard the children under his care with this point in view.

Symptoms.—The first and most important symptom found in this study is underweight. This corresponds with the opinion of Holt.[24] A greater percentage of reactors is found in the underweight group, almost 2 to 1. The whole school population of a small town was given the test, with the result that only 14 per cent reacted, as compared with 29.2 per cent of reactors found in the selected underweight group in other towns and cities. This point will be investigated further. Other symptoms of importance are a tendency to tire easily, nervous irritability, frequent "colds," sweating, night terrors, cough and hoarseness.

Physical Signs.—Interscapular dulness was found in 70 per cent of the hilum and suspicious cases. This dulness is best elicited by light percussion over comparable areas. In addition to the dull note, a sense of resistance is also felt under the pleximeter finger. This resistance is due to a reflex causing muscle spasm and is found when the hilum glands are actively diseased. The spasm is best appreciated by light touch palpation so well described by Jacobson.[25]

Râles were found twice as often in the nonreactor group as in the reactor group. It is of interest to note that 70 per cent of the hilum and suspicious groups were marked suspicious by the examining physicians before the results of either the roentgen-ray or tuberculin tests were known. Twenty per cent of the negative cases, however, were marked suspicious by the same examiners. Cardiac murmurs were found in 1 per cent of the nonreactors against 0.5 per cent of the reactors. This is of interest because, as is well known, cardiac disease among the tuberculous is less common than in the general population. The much discussed d'Espine's sign and the Eustace Smith sign were not included in this analysis. Dr. Chadwick regards them of little significance.

Roentgen-Ray Evidence.—The most frequent roentgen-ray finding is a moderately thickened hilum with shadows interpreted as glands (bronchial, mediastinal) within this thickened area. Special emphasis is placed on linear markings or beading running from the hilum into the deep parenchyma, and circumscribed discrete areas of density in the lung parenchyma (interpreted as calcified or fibroid tubercle). These are also known as Ghon's primary focus.

Diagnosis.—The diagnosis of hilum tuberculosis in school children is based on a conservative evaluation of certain symptoms (underweight for age and height being most important), physical signs (relative interscapular dulness) exclusion of other diseases and control by roentgen-ray examination and tuberculin test. By this method, 459 cases out of 10,648, or 5 per cent, were diagnosed hilum tuberculosis. This is in agreement with Planner,[12] who found an exactly similar percentage.

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[23] Blos: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1899.

[24] Holt, L. E.: Food, Health and Growth, New York, the Macmillan Company, 1922.

[25] Jacobson, Clara: Light Touch Palpation, Am. Rev. Tuberc. 6: 394 (July) 1922.

OXYGEN INFLATION OF THE PERITONEAL CAVITY IN EXUDATIVE TUBERCULOUS PERITONITIS

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The treatment of the exudative form of tuberculous peritonitis by abdominal puncture, with evacuation of the fluid, followed by the injection of oxygen, is so much simpler than the usually advised laparotomy that it seems worth while to add another case to those already reported in which this method has been of value.

REPORT OF CASE

R. D., a man, aged 40, one of eight healthy children, with mother and father alive and well, gave no history of tuberculosis, nor had he ever been seriously ill before. From five to six weeks previous to the time he consulted me, he began to have fever up to 101 in the evening, and complained of slight headache and malaise. It was considered to be a mild grippal infection. The fever, however, persisted; the weight diminished, a mild, unproductive cough developed, and profuse night sweats set in. I first saw him, May 23, 1925, and at that time there was slight dulness at both bases of the lungs, but no involvement of the apexes. The heart was normal. The liver and spleen were not enlarged. There were no petechiae or roseola on the skin.

He was admitted to the Lenox Hill Hospital, May 28. His temperature became higher and remittent in character, varying from 100 F. in the morning up to 104 F. in the evening. Repeated blood cultures were negative; repeated blood counts showed a mild secondary anemia with a leukopenia of about 5,000, but a fairly normal differential count; the sputum examination was negative; three Widal tests done at weekly intervals showed definite loss of motility and clumping in dilutions up to 1:80, although no typhoid bacilli were ever found in the urine or stool, in spite of most careful search. Roentgen-ray examination of the lungs showed some increased density of the left apex, and marked bronchial thickening throughout.

The general condition of the patient continued to show no improvement: the fever persisted; the pulse increased in frequency; the night sweats became more profuse, and the loss of weight became more marked. The spleen was never palpable or enlarged on percussion.

June 1, seven weeks after the onset of the illness, signs of a pleuritic exudate appeared at the base of the right lung. Fifty cubic centimeters of clear yellow fluid was removed, which was sterile on culture, and had a cell count of 8,640, of which 98 per cent were lymphocytes. About this time, also, ascites became evident, which quickly increased in amount so that the patient became very uncomfortable in partaking of food, and respiration became labored. June 18, the abdomen was punctured in the left iliac region, and more than 3,000 cc. of clear yellow fluid was removed. The trocar employed for the puncture was sufficiently large to permit passage through it of a rubber catheter. When all the liquid had been drained, the end of the catheter was connected with a sterile glass tip attached by a rubber tube to an oxygen tank, and oxygen was permitted gradually to flow into the peritoneal cavity until the abdominal wall became definitely distended, and the patient complained of discomfort. The trocar and catheter were then removed, and the small skin puncture closed by a single suture in order to prevent the escape of the gas. The fluid removed had a specific gravity of 1.016, with a cell count of 2,000, and 100 per cent of lymphocytes. Cultures were sterile. The abdominal distention from the oxygen persisted for about four days.

In the course of the next two weeks, the exudate in the right chest gradually diminished, but fluid appeared in the left chest, from which, July 6, 200 cc. of clear yellow fluid was removed. A slight amount of abdominal ascites gradually recurred, but not sufficient to require tapping.

The general condition of the patient now began to improve: the fever began to subside, so that July 27, about three and a half months after the onset of the illness, it reached normal, and remained there; the sweats gradually disappeared; the appetite and weight increased; the fluid in the chest and abdomen was absorbed. The patient is now (November 14) back to his original weight, and apparently perfectly well. The Widal test, October 6, was negative. I have noted a positive Widal test due to nonspecific agglutinins during the acute stage of a tuberculous infection in a previous case, and a similar occurrence was reported by Zinsser.[1]

COMMENT

There is no doubt that we dealt here with a case of tuberculous peritonitis, which was definitely and favorably influenced by the removal of the abdominal fluid and inflation with oxygen. One cannot, however, be too definite in adjudging the beneficial effects of any particular form of therapy in tuberculous peritonitis. According to Ochsner,[2] 50 per cent. of these patients are relieved by medical treatment, and Allbutt and Rolleston [3] believe that spontaneous cure occurs in 50 per cent. Most of these patients get the benefit of the best hygienic measures, which undoubtedly add greatly to the favorable results. Usually, many different forms of treatment are tried at the same time, so that it is difficult to evaluate any specific mode of procedure. For example, in our patient, heliotherapy was also employed, in the form of the quartz lamp for several weeks while he was at the hospital and later on when he was moved to the country, the abdomen and chest were exposed directly to the sun's rays.

Nevertheless, it has long been recognized (since Spencer Wells, in 1862, unintentionally operated on a patient with tuberculous peritonitis, with a prompt recovery), that simple laparotomy in exudative tuberculous peritonitis brings about a striking change for the better, and subsequent recovery. One is not certain whether this beneficial influence is due to the exposure of the peritoneal cavity to the sunlight, or to the air or its oxygen.

Puncture of the abdomen with evacuation of the ascitic fluid, followed by inflation with oxygen, has been proposed instead of the laparotomy mentioned in the foregoing. The former is undoubtedly a much more simple technical procedure, so that it can be employed at home by the general medical attendant, and does not expose the usually very ill patient to the shock of a laparotomy and a narcosis. Furthermore, it can be repeated as often as necessary, when the exudate reappears. In our patient, improvement set in after the first paracentesis, but that is unusual. The results reported from this method by other authors do not seem to be known generally, but are distinctly encouraging. A review of the literature on this topic has therefore been undertaken.

The first publication appeared as far back as 1893 in an article by Mosetig-Moorhof,[4] who called attention to a new treatment for tuberculous peritonitis by removal of the fluid through abdominal puncture, and subsequent air injection. This report was of a child, aged 4 years, with tuberculous peritonitis and epididymitis, in whom the testis was excised, and, through the inguinal canal, 1,700 cc. of fluid was evacuated, followed by distention of the peritoneal cavity with air. The child made a complete recovery. The same year, but several months later, Nolen [5] independently recommended the same form of therapy as a new method. He reported three cases, with recovery in two, the third patient having died of an advanced intestinal tuberculosis.

In the German literature, Biedert-Fischl [6] reported two patients cured this way.

Jakobaeus [7] reported six cases of tuberculous peritonitis in adults, five of which were cured by removal of ascitic fluid, followed by air injections. The patient who died had an associated severe infection of the intestines and lungs.

Schmidt,[8] in his last work, advised injection of from 1 to 2 liters of oxygen into the peritoneal cavity after abdominal puncture, as he believed that the contact with the air was the curing agent.

Koestle [9] mentioned the use of air injections in cases of tuberculous peritonitis, but did not cite cases or definite results.

David [10] also stated that he had frequently employed oxygen, air and nitrogen injections in tuberculous peritonitis, to good advantage.

Sorgo and Fritz [11] cited a case with successful treatment in a girl, aged 19.

In the French literature, Weil and Loiseleur [12] reported six cases of tuberculous peritonitis in which treatment was carried out by paracentesis and injection of air (in two, also nitrogen was injected), in three of which complete cure was effected.

In the English literature, Rost [13] first reported eight cases of tuberculosis treated by inflation with oxygen. Of these, only one showed peritonitis (four were cases of psoas abscess, and three were joint infections) which was well advanced in character, with matting of the intestines, and large masses of tuberculous material in the mesentery. Rost, however, had performed a laparotomy previous to the oxygen inflation. The following year he reported three additional cases in which treatment was successful, but again in two of them a laparotomy had been previously undertaken.[14]

In the American literature, Stein [15] was the first to lay stress on the conservative treatment of the exudative form of tuberculous peritonitis by paracentesis, with evacuation of fluid and subsequent oxygen insufflation. He reported several very striking results.

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[1] Zinsser: Text Book of Bacteriology, ed. 1, p. 423.

[2] Ochsner, A. J., and Percy, N. M.: Manual of Surgery, ed. 5, 1917, pp. 286-290.

[3] Allbutt, O., and Rolleston, H. D.: System of Medicine **3**: 957-978, 1908.

[4] Mosetig-Moorhof: Wien. med. Presse, 1893, p. 1.

[5] Nolen: Berl. klin. Wchnschr., 1893, p. 813.

[6] Biedert-Fischl: Lehrbuch für Kinderkrankheiten, 1902, p. 342.

[7] Jakobaeus: Ueber Laparo- und Thorakoskopie, 1913, pp. 67-73.

[8] Schmidt: Diagnostik und Therapeutik Irrtümer **6**: 64, 1919.

[9] Koestle: München. med. Wchnschr., 1920, p. 714.

[10] David, O.: München. med. Wchnschr. **67**: 907 (July 30) 1920.

[11] Sorgo and Fritz: Med. Klin. **17**: 1513 (Dec. 11) 1921.

[12] Emile-Weil, P. E., and Loiseleur, J.: Bull. et mém. Soc. méd. d. hôp. de Paris **45**: 1661 (Dec. 16) 1921.

[13] Rost, E. R.: Indian M. Gaz. **55**: 329 (Sept.) 1920.

[14] Rost, E. R.: Brit. M. J. **2**: 978 (Dec. 10) 1921.

[15] Stein, Arthur: Oxygen Inflations of Peritoneal Cavity in Tuberculous Exudative Peritonitis, J. A. M. A. **78**: 718 (March 11) 1922.

McGlinn[16] had employed oxygen in the treatment of tuberculous peritonitis, but introduced it through an abdominal incision. Bainbridge[17] also mentioned intra-abdominal oxygen administration as favorably influencing certain types of tuberculous peritonitis. In an article following that of Stein, Mattick[18] reported an apparently complete recovery in a patient with a tuberculous ascites of three months' standing. Gilbert[19] reported two similar beneficial effects from the use of filtered air instead of oxygen. Carroll Smith[20] recently described a case in which laparotomy was performed without any result, and in which improvement was noted only after oxygen injections were used.

CONCLUSION

The treatment of that form of tuberculous peritonitis which is associated with ascites, by abdominal puncture, followed by insufflation with oxygen, is a well recognized and beneficial form of therapy. It should be undertaken in preference to the usually advised laparotomy. The apparent cure in the case here reported is a striking instance of this.

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PYELITIS IN THE FEMALE *

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Pyelitis is an inflammation of the mucous membrane of the pelvis and calices of the kidney, whereas with pyelonephritis the process is more advanced; in addition to the changes in the pelvis and calices there is an infection of the parenchyma. Acute pyelitis as a distinct pathologic entity is not common, for it is usually associated with varying degrees of pyelonephritis. Pyelitis is usually secondary to infection in the parenchyma and in many cases this infection in the parenchyma clears up, leaving the pelvis and calices of the kidney involved. The differential diagnosis between simple pyelitis and pyelonephritis is impossible without the use of functional tests. Of course, in simple pyelitis there is no decrease in function, for the parenchyma is not involved, whereas in pyelonephritis there is a reduction in the output of dye. In cases in which the infection in the parenchyma has cleared up and with a resulting pyelitis existing, the function is decreased.

ETIOLOGY

In 140 cases of pyelitis collected by Kidd[1] of London, 117 were due to the colon bacillus; nine were due to the streptococcus, and in two instances the streptococcus was associated with the colon bacillus; seven were due to the staphylococcus; two to the gonococcus; one to *Proteus vulgaris;* one to the paratyphoid bacillus; one to *Bacillus asiaticus;* one to paramalta fever, and in nine cases no organisms could be isolated.

Gonococcal infections of the kidney are quite uncommon, only twenty-five cases having been reported up to the present time.

It is commonly believed that the colon bacillus is the chief cause of pyelitis and pyelonephritis in the majority of cases. Bumpus and Meisser[2] believe that the streptococcus is the infecting organism and that the colon bacillus is a secondary invader, which outgrows and usurps the entire field. They also believe that the teeth and tonsils may harbor these streptococci, which have a selective action on the urinary tract.

Eighty-two rabbits were injected intravenously with cultures of green producing streptococci and staphylococci which had been obtained from the teeth, tonsils, blood and urine of patients showing pyelonephritis and pyelitis. Sixty-three of the rabbits that were injected showed lesions of the kidney. Bumpus and Meisser also showed that it was impossible to obtain kidney lesions by the intravenous injections of the cultures of *Bacillus coli* obtained from the urine of patients suffering with pyelitis. However, Helmholz[3] showed experimentally in rabbits that lesions of the kidney could be caused by the intravenous injection of the colon bacillus and also that a pyelitis could be produced by merely introducing bacteria into the bladder without irritation of the bladder or obstruction to the urinary flow. The pyelitis produced in this manner might be explained by the phenomena of ureteral reflux which Wislocki and O'Conor showed occurred frequently in rabbits.

If Bumpus and Meisser are correct in their assumption that the streptococcus and staphylococcus are the primary invaders and that the colon bacillus is a secondary invader, it would appear that the incidence of streptococcic and staphylococcic pyelitis would be far greater than it is.

PREDISPOSING FACTORS

1. Foci of infection.
    (*a*) Abscesses of teeth, infected tonsils, sinuses, chronic ear diseases.
    (*b*) Gastro-intestinal conditions, such as constipation, diarrhea, fissure and fistula in ano.
    (*c*) Gallbladder disease and appendicitis.
    (*d*) Infections of prostate and seminal vesicles.
2. Conditions that cause a decrease in resistance of the kidney to organisms that may be filtering through it.
    (*a*) Nephritis.
    (*b*) Arteriosclerosis.
    (*c*) Stone in the kidney.
3. Conditions that cause urinary stasis.
    (*a*) Stone in the ureter.
    (*b*) Stricture of the ureter.
    (*c*) Enlarged prostate.
    (*d*) Hydro-ureters due to cancer of the prostate or uterus.
    (*e*) Pregnancy.
4. Conditions that cause decrease of general resistance.
    (*a*) Overexertion.
    (*b*) Exposure to cold wet weather.

ROUTES OF INFECTION

Hematogenous.—According to Sampson,[4] there is an arterial anastomosis between the bladder and the kidney which takes place about the lower pole of the kidney between branches of the renal artery, which supply the capsule of the kidney and the branches of the ovarian artery. The ovarian artery then anastomoses with the uterine and that with the vesical artery. Embleton and Thiele[5] have shown in the following manner that infections of the kidney occur by way of the blood stream and that infection by way of the lymphatics is uncommon: Experimenting on animals, they placed bacteria on the urethral mucosa and proved that they then passed into the lymphatics of the wall of the bladder and ureter and collected beneath the capsule of the kidney. They did not then pass into the kidney or enter the urine, but passed rapidly into the lumbar glands and thoracic duct and then into the blood stream. Embleton and Thiele also found that, after intraperitoneal inoculation, organisms appeared in the urine in from ten to thirty minutes. If the thoracic duct was cut they did not reach the kidney or urine, thus proving that the organisms reaching the kidney were blood borne.

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[16] McGlinn: New York M. J. **88**: 359, 1908.
[17] Bainbridge: Am. J. Surg. **27**: 364, 1913.
[18] Mattick, W. L.: Am. Rev. Tuberc. **8**: 473 (Jan.) 1924.
[19] Gilbert, O. M.: Am. Rev. Tuberc. **8**: 479 (Jan.) 1924.
[20] Smith, Carroll: Oxygen Injections in Treatment of Tuberculous Peritonitis, J. A. M. A. **84**: 1491-1492 (May 16) 1925.

* From the Department of Gynecology, University Hospital, University of Maryland.

[1] Kidd, Frank: Common Infections of the Kidney, New York, Oxford University Press, 1920.
[2] Bumpus, H. C., and Meisser, J. G.: Focal Infection and Selective Localization of Streptococci in Pyelonephritis, Arch. Int. Med. **27**: 326 (March) 1921.
[3] Helmholz, H. F.: J. Urol. **8**: 301-306 (Oct.) 1922.
[4] Sampson: Bull. Johns Hopkins Hosp. **14**, 1903.
[5] Embleton and Thiele: Proc. Roy. Med. Soc. London **7**: 69, 1913.

The reason we do not obtain the organisms in the blood more often than we do is that the cultures are not made at the proper time. P. M. Patton of the clinical laboratory in London believes that the organisms occur in the blood stream only just before a rigor. He reports three cases, in two of which the blood was taken during the chill and in the remaining one the culture was done a few hours after the chill, the colon bacillus being obtained in all these cultures. Crabtree[6] was able to obtain 40 per cent positive blood cultures in thirty-two cases of pyelonephritis, the colon bacillus being the infecting organism.

Lymphatic.—Several foreign investigators are in favor of the lymphatic route. Sakata[7] and Bauereisen[8] believe that it is anatomically possible for organisms to ascend from the bladder to the kidney by way of the ureteral lymphatics. Lymphatics could not be demonstrated in the mucosa or submucosa but were present in the muscular coats of the ureter. They were found to run parallel with the blood vessels. The blood supply of the ureter is variable as a rule; the abdominal portion is supplied by the renal and ovarian arteries, and the pelvic portion is supplied by the superior vesical and middle hemorrhoidal vessels.

Lever Stewart transplanted the ureters of a dog into the large bowel and showed that infections of the kidney occurred by organisms ascending through the ureteral lymphatic. Franke[9] has demonstrated that lymphatics from the large bowel pass over the capsule of the kidney, and Rindowsky has shown that the kidney has a rich network of lymphatics which emerge at the hilum and that there is a connection between these lymphatics and those of the capsule. Several authors believe that with any gastro-intestinal disturbance, such as constipation or ileocolitis, organisms may very readily pass from the intestines to the kidney by way of the lymphatics. Mayer[10] thinks that the lymphatic connection between the large colon and the kidney occurs only on the right side, and this he believes is the reason for so many right-sided infections. He does not believe that under normal conditions organisms may penetrate the intestinal wall, but with pathologic changes this may be the case.

Ascending.—During the last few years, there has been a great deal written about ascending infection of the kidney and ureteral reflux. According to Sampson, ascending renal infection may occur: (*a*) by injury to the intravesical portion of the ureter; (*b*) by the extension of an inflammatory process from the bladder through the ureteral wall, and (*c*) by ureteral reflux.

EXPERIMENTAL WORK

Wislocki and O'Conor,[11] working on rabbits, found that regurgitation could be readily produced. They made the following experiment:

> Oct. 7, 1919, under ether anesthesia, a number 7 French rubber catheter was inserted into the bladder of a male rabbit; the bladder was then emptied and the urethra tied off in situ. A laparotomy was next performed, and the ureters were exposed under warm salt solution. Peristaltic waves could be seen traveling at regular intervals down the ureter, averaging from one to two a minute, with a speed, approximately, of from 30 to 40 mm. a second. A syringe with a capacity of 20 cc. was meanwhile filled with warm saline solution stained with methylene blue. The syringe was then attached to the catheter, and the methylene blue solution gradually injected into the bladder, so that it became moderately distended. While the ureters were under observation, a column of blue fluid suddenly filled the lumen of the right ureter. A peristaltic wave, which had already left the renal pelvis, met the ascending column in the upper half of the ureter and impeded its progress. Fresh peristaltic waves began above, becoming more frequent and vigorous, and a struggle ensued for control of the ureter. The column of fluid advanced toward the kidney and receded again with each peristaltic wave. Gradually the peristaltic waves expelled the methylene blue from the ureter, and the uterovesical orifice closed. This phenomenon repeated itself in a few minutes on the same side and also in the left ureter. Occasionally, the ureters were unable to expel the invading fluid.

It is quite evident that urine may ascend the ureters when there is damage to the ureterovesical orifices and they are not functioning properly. If ureteral reflux does occur, the finding of a unilateral renal infection would be unusual, for would not the organisms from the infected side quickly ascend the sound ureter and kidney and set up an inflammatory process? In 1916, Kretschmer published a series of cystograms showing this phenomena of ureteral reflux. Quinby,[12] in 1922, reported several cases of ureteral reflux in which he distended the bladder with sodium bromid and then under the fluoroscope watched the bromid solution ascend the ureter. Wislocki and O'Conor believe that further investigation is necessary before it is proved that similar phenomena occur in man, and they think that "far more skepticism should prevail concerning the possibility of the conveyance of organisms up the ureter and the retrograde movements of ureteral calculi by antiperistaltic contractions."

Sampson has shown that it is impossible to force fluid from the bladder into the ureter; that is, when the structures are normal. He removed a bladder at necropsy, cut off both ureters near the bladder, and then distended the bladder with fluid. No fluid escaped from the severed ureters. It has been found that ureteral reflux occurs much less frequently in dogs than in rabbits, so that deductions drawn from experiments on rabbits could not be applied to dogs. In view of this fact it would not be justifiable to conclude that this phenomenon occurred in man from experiments on rabbits.

ACUTE AND CHRONIC PYELITIS IN ADULTS

The acute type is not often seen by the urologist, for many of these conditions are self limiting. It is for this reason that I believe that patients with an acute infection should be first treated medically and then, if the infection persists, kidney lavage should be carried out. The attack usually begins with a sudden pain in a kidney, which either remains localized or radiates down the thigh. There is an elevation of temperature, which is in many cases associated with chills and sweats. The most common symptoms are frequent urination and dysuria.

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[6] Cabot, H., and Crabtree, E. G.: Surg., Gynec. & Obst. **23**: 495 (Nov.) 1916.

[7] Sakata: Arch. f. Anat. u. Physiol., 1903.

[8] Bauereisen, A.: Ztschr. f. Gynäk. u. Urol. **2**: 132, 1910.

[9] Franke: Ergebn. d. Chir. u. Orthop. **7**: 671, 1913.

[10] Mayer: Munchen. med. Wchnschr., 1913, p. 1479.

[11] Wislocki, G. B., and O'Conor, V. J.: Bull. Johns Hopkins Hosp. **31**: 197 (June) 1920.

[12] Quinby, W. W.: New York M. J. **115**: 520 (May 3) 1922.

A short time ago a patient consulted me with regard to an acute pain in the right kidney, which came on after exposure to cold and wet weather. There was a history of high fever, chills, sweats, frequency and dysuria. On examination, no foci of infection could be made out; the tonsils had been removed and the teeth were in good condition. The right kidney was moderately enlarged and tender. The urine was loaded with white blood cells, and on culture a colon bacillus was found. Cystoscopy was not done but the patient was advised to drink large quantities of water. One week after the onset of the illness, the pain had disappeared and five weeks later the urine was sterile and free of pus.

The chronic type of pyelitis is the one that is most frequently seen, and it is in this type of infection that so much can be done by renal lavage and drainage. The symptoms are most variable; pain which is usually dully aching in character may be localized in the kidney regions, down the course of the ureter, down the thigh, in the perineum, or there may be only colicky pains over the entire abdomen. In this type of infection the temperature is only moderately elevated and the constitutional symptoms are not marked, although at times there may be exacerbations with high fever and intense pain.

I have always been impressed by the fact that patients with pyelitis do not appear very ill, although there may be every evidence of an intense infection. In twenty-five cases of chronic pyelitis that I have reviewed, the duration of the infection was from three months to fourteen years. The majority of these patients sought medical advice on account of an acute flare-up of chronic infection. Cystoscopic examination showed pathologic changes in the bladder in 60 per cent. of the cases. The most common lesion was redness around the affected orifices, and edema and swelling of the trigon. There were varying degrees of cystitis, which ranged from a small area of hyperemia to an intense, widespread involvement of the mucosa. All the patients gave a history of frequency and dysuria. All but six had had chills and sweats, and five had had hematuria. Twelve patients gave a history of nausea and attacks of vomiting, while only two complained of nausea. In the bacteriologic examination of the urine, *Bacillus coli* was obtained in nineteen cases. A staphylococcus was found in two, and a staphylococcus and colon bacillus were found in one. In two cases the cultures were negative and in one no bacteriologic examination was made. The average white blood count was around 13,000. A blood chemistry test and a phenolsulphonephthalein test were made on a number of patients, all of which proved to be normal, thus showing that there was little destruction in the kidney parenchyma. In a number of cases, pyelography was of great assistance in making the diagnosis between a pyelitis and a pyonephrosis.

PYELITIS WITH PREGNANCY

Another type of pyelitis, which is of much interest, is that associated with pregnancy. Many observers, notably Mayer, believe that pregnancy is not the cause of pyelitis but is a predisposing factor, and they are of the opinion that it is the lighting up of an old latent infection. It has been definitely shown that the main factor in the production of renal infection is urinary stasis. In this type of pyelitis there is definite urinary stasis, which is shown by the frequency of hydronephrosis, which occurred eighteen times in my series of twenty-one cases. Hirsch in Munich performed necropsies on 300 patients who had died during pregnancy or during the puerperium. Dilated ureters and kidneys were found in ninety-six cases. Pollack reports having found thirty-five cases of dilated ureters in 130 necropsies on pregnant women. W. J. Carson, associate pathologist of the University of Maryland, has given me the necropsy reports of three women dying during pregnancy, one of them being at six months gestation and the other two at full term. The first case showed a right hydro-ureter, the kidney pelvis being normal in size. The second case showed a bilateral hydro-ureter and no hydronephrosis. The third case showed a right hydro-ureter and hydronephrosis. In all three cases, sections of the ureteral wall were studied and no evidence of a stricture could be made out, but there was a round cell infiltration of the wall with localized desquamation of the mucosa.

There are many theories advanced to account for the dilated ureter and pelvis. Some observers believe that urinary stasis is produced by the pressure of the enlarging uterus or the contained fetus against the ureter at the point where the ureter crosses the pelvic brim. In support of this theory we can all recall that when patients with high fever were placed in the knee-chest position, thus allowing the uterus to fall away from the ureter and free drainage to be established, the acute symptoms would subside and the temperature would return to normal. Infrequently pyelitis occurs in the first or second month of pregnancy; then, of course, the stasis could not be brought about by the impinging of the uterus against the ureter at the brim of the pelvis, for the pregnancy would have to be at least of four months' duration before this could be possible. Other observers believe that the stasis is produced by the downward displacement of the bladder, as the uterus enlarges with subsequent narrowing or kinking of the ureter at the brim of the pelvis. Mirabeau[13] believes that the swelling and edema of the bladder cause obstruction in the ureter as it passes through the bladder wall. I do not believe that this theory is tenable, for the pyelograms that I have made show that the hydro-ureters begin at the brim of the pelvis and that the portion of the ureter from this point down to the bladder is of normal size.

Hunner believes that the commonest cause of all pyelitis is a stricture of the ureter, which is often multiple and in many cases is bilateral. He has shown that the ureter undergoes a definite inflammatory reaction, with a resulting narrowing of the diameter of the lumen. He has also shown that the causative factor in the production of strictures is foci of infection, which often have to be removed before the infection of the kidney will clear up. Carson, at the University Hospital, has examined, as a routine, the ureters for strictures and kidneys for hydronephroses in patients dying from all causes during the last three years. He has found hydro-ureters which were caused by pressure of fibroid uteri and by enlarged retroperitoneal glands of Hodgkin's disease. One of his cases showed a left chronic periureteritis with hydronephrosis, which was thought to be due to an adherent pyosalpinx. One necropsy showed bilateral ureteral strictures due to periureteritis extending upward 6 cm. from the bladder. There was also a marked cystitis present, and it was thought that the inflammation in the ureter was an extension of the infection from the bladder. The lumen of the strictured ureter measured 1 mm. in diameter, and there was a bilateral hydronephrosis of 30 cc. Another case showed a dense stricture of the left ureter located 15 cm. from the bladder. There was a nearly complete obliteration of the lumen, with a hydro-ureter and a hydronephrosis. The kidney and ureter showed no evidence of tuberculosis. In another case, bilateral hydro-ureters were found which were caused by adhesions following a hysterectomy. Carson will make a complete report of his necropsy findings in the near future.

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[13] Mirabeau: Zentralbl. f Gynäk, 1910, p 1635.

In eight cases of pyelitis with pregnancy, catheters with 4 mm. wax bulbs were passed up the ureter of the affected side. Four of these patients showed a definite "hang" at the brim of the pelvis when the catheter was withdrawn. Hydronephroses were found which contained as much as 75 cc. of fluid. On two of these patients who showed definite "hangs" at the brim of the pelvis and hydronephroses, cystoscopy was again done about two months after the birth of the babies. The same technic was carried out as in the first cystoscopy, 4 mm. bulbs again being used. On withdrawal of the catheter, there was no "hang" made out and the pelvic capacity had returned to normal. The constricted ureter and hydronephrosis is well shown in figure 1, and the decrease of pelvic capacity is shown in figure 2. I believe that the urinary stasis in these two cases was undoubtedly due to the pressure of the enlarged uterus and the contained fetus. The pregnancies were of four and six months' duration.

ANALYSIS OF CASES

The symptoms in this type of pyelitis are very similar to those occurring in cases of acute pyelitis, with the addition of the frequent complaint of crampy pains in the lower part of the abdomen which simulate labor pains. The patients in this group are often very sick and give every evidence of an intense infection.

I recall a negro girl, aged 18, admitted to the hospital in a very serious condition, who three weeks before admission was taken with chills, fever, nausea and vomiting. There was a slight dysuria and some frequency of urination. A few days before admission to the hospital, the patient began to develop intense jaundice. She was six months pregnant and markedly jaundiced. The temperature was 104; the pulse, 130, and respirations were 24. The head findings were negative; the conjunctivae were jaundiced. The teeth were in fair condition, and the tonsils were not enlarged. The heart and lungs were normal.

It was thought by the medical consultant that there was a definite atrophy of the liver. There was moderate tenderness over the entire abdomen, which was more intense in the lumbar region and moderate rigidity over the kidneys, which was more marked on the left side. The lower part of the abdomen was prominent from the pubis to the umbilicus, and on palpation an ovoid tumor was felt arising out of the pelvis, which extended up to the umbilicus. Pelvic examination showed that the tumor in the lower abdomen was a pregnant uterus.

Examination of the catheterized bladder urine revealed acidity, albumin +, and no sugar, blood or bile. The urine was cloudy, with specific gravity 1.030; microscopic examination revealed white blood cells, ++, in clumps; red blood cells, a few. Microscopic examination of the blood revealed: red blood cells, 2,240,000; white blood cells, 35,000; differential count: polymorphonuclears, 79 per cent; small mononuclears, 9 per cent; large mononuclears, 3 per cent; myelocytes, 9 per cent. Blood cultures, as well as the blood and spinal Wassermann tests were negative.

The blood chemistry findings were normal.

The impression of the internist was that the patient had an acute yellow atrophy of the liver, although the urine showed no leucin or tyrosin crystals, which are pathognomonic of this condition.

In view of the fact that the patient had chills, very high fever, and a moderate tenderness in the kidney regions with some frequency and dysuria, and the urine showed a fair number of white blood cells, which were in clumps, I made a diagnosis of pyelitis with pregnancy. The catheterized kidney urine showed a bilateral pyelitis due to a colon bacillus. With kidney lavage and drainage, the signs and symptoms of the infection quickly cleared up, although the urine was not rendered sterile and pus free until after the birth of the child, three months later.

In this series of twenty-one cases, the time of occurrence was variable. There was one case at three months, four at four months, five at five months, four at seven months, two at eight months, two at six months, and three cases during the puerperium.

The infecting organism was found to be the colon bacillus in seventeen cases, staphylococcus in two cases, and there was no bacteriologic report in two instances. It is often stated by many observers that right sided pyelitis is the more frequent, but my findings do not agree with this. There were twelve patients with a bilateral infection, six with a right sided infection and three with a left sided infection.

PYELITIS IN CHILDREN

Another type of pyelitis of great interest is that occurring in infants and young children. This type of infection is usually seen by the pediatrician and rarely by the urologist, for the condition in most cases is self limiting and may disappear as rapidly as it appears. E. Rhonheimer of Basel made a study of 122 cases of pyelitis occurring in infancy. He wished to find out whether the condition was self limiting and whether there was complete healing. He examined the urines over a period of from one to eight years following the attack and found them normal. He found that this complete healing in infants is in marked contrast with the behavior of pyelitis in older children, which is characterized by frequent recurrences. In the 122 cases studied, 77 per cent of the infections were in girls and 23 per cent in boys. According to Helmholz, with the exception of common colds and gastro-intestinal upsets, the most common acute disease occurring in girls under 2 years is pyelitis. The most characteristic finding in reviewing these ten cases was the absence of local symptoms and the presence of general symptoms. The common symptoms are very high fever, chills, loss of appetite, irritability and vomiting. There may be frequency and dysuria. According to Helmholz there are two forms of pyelitis, a primary type, which is characterized by an acute onset in a healthy breast fed baby, and a secondary type in which the pyelitis develops during a gastro-intestinal disturbance or after a respiratory infection. Any kind of local infection may set up a pyelitis. In eight of the ten children whose cases I have reviewed, the infection cleared up under medicinal treatment, but in the remaining two it was necessary to carry out ureteral drainage and lavage before a cure could be brought about. One of the children, aged 10 years, who had been treated for typhoid fever over a period of six weeks, had a septic fever, rapid pulse, nausea and loss of appetite, but no urinary symptoms. On catheterization, clumped white blood corpuscles and colon bacilli were obtained from the left kidney. All the symptoms disappeared and the urine became sterile with two renal lavages. The other child, aged 20 months, had had pus in the urine with periods of septic temperature, chills and loss of appetite over a period of one year. After the child had spent four months in the hospital on medicinal treatment with no improvement, kidney lavage was carried out with great success. A bilateral colon infection was found. After four treatments, all the symptoms had disappeared and the urine was sterile.

It is interesting to speculate why pyelitis is more frequent in girl babies than in boy babies. Several years ago many observers were of the opinion that, owing to the short female urethra, organisms could enter the bladder and a pyelitis was then produced by an ascending infection. At present it is generally agreed that the organisms that produce pyelitis are blood borne. It is a well known fact that any gastro-intestinal upset, especially diarrhea, may be the predisposing factor in the production of a pyelitis, and according to Kelly and Burnham the regulation of the bowels is more important than treatment of the urinary tract. With the frequent irritating stools, the perineum becomes quite irritated and there are many small atria formed through which the organisms may enter the lymphatics and blood stream. The mucous membrane of the vulva and vagina offers a much better absorptive surface for the entrance of organisms than does the skin of the male perineum. Matrimonial or defloration pyelitis, which is thought to be due to the entrance of organisms through the lacerated hymen, would lend support to my views as to the cause of the prevalence of pyelitis in girl babies.

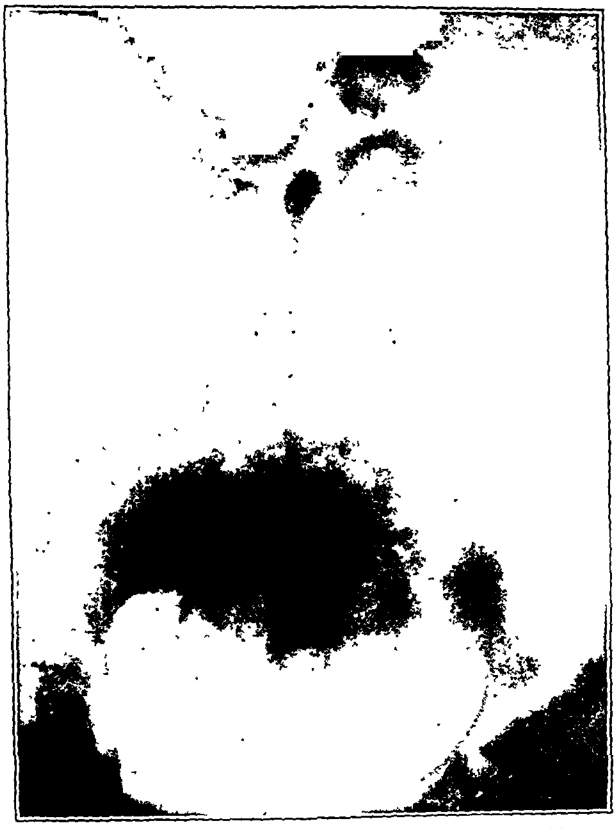

Fig. 1.—Typical constricted ureter and hydronephrosis in pyelitis associated with pregnancy.

TREATMENT

The general practitioner, who is particularly interested in the medicinal form of treatment, will see and treat many more cases of pyelitis than the urologist. There are two main methods of treatment: first, the medicinal and, second, renal lavage and drainage.

Medicinal treatment is usually used in the early and acute types of the infection and in the majority of cases with success. Thompson of Edinburgh was the first to advocate the alkalization of the urine, and this method of treatment is still popular. I have noticed that with alkalization the symptoms will often subside although the urine still contains many white blood cells and organisms. Helmholz[14] has endeavored to determine whether alkalization merely tends to increase the urinary output, or whether it has some specific action. He has found that the colon bacillus will grow as luxuriantly in markedly alkaline mediums as it will in markedly acid mediums. In order to determine whether the changing of the reaction of the urine from acid to alkaline and vice versa had any inhibitory action on the growth of the organisms, he studied the rapidity of growth of the colon bacillus when grown in acid broth and transplanted to alkaline mediums and vice versa. It was found that there was a slight bacterial lag when the organisms were transferred from alkaline to acid mediums, but there was no change when transferred from acid to alkaline. Most observers think that methenamine at the kidney level is of no value, but in the bladder, the urine, if acid, may be rendered sterile in a short time. Alkalization is the favorite method of treatment, but, as Helmholz has shown, it has no specific action, although it may have slight diuretic effect. It is generally agreed that the drinking of large quantities of water, from 3 to 4 quarts (3.4 to 4.5 liters) a day, is of the greatest value. It is thought that this mechanical flushing of the kidney is of much more value than rendering the urine acid or alkaline. Even though alkalis have no specific action, I continue to use them, for by their use a larger quantity of water will be consumed and the patient feels much better if he is taking some form of medicine.

It is of importance to determine the type of organism that is producing the infection, for if it is due to a streptococcus or a staphylococcus it can be quickly cleared up by the oral administration of hexylresorcinol. According to Leonard,[15] "a recurrence even after all treatment has been discontinued for several months has yet to be observed." Unfortunately, the infections due to the colon bacillus are very resistant to this drug, and unless the bacterial count is low the infection will not clear up. Leonard says that "heavy infections of the urinary tract with *B. coli* cannot be cleared up with hexylresorcinol without a temporary reduction in the number of organisms present by some other means, such as the usual local treatment, which would afford this substance an opportunity to complete the disinfection."

My experience with hexylresorcinol has been limited to three patients, the pyelitis in one being due to the colon bacillus and in the remaining two to the staphylococcus. The patient with the colon infection had had chronic symptoms with several acute exacerbations over a period of several years. Pelvic lavage with a 1 per cent silver nitrate solution was carried out on two occasions, and the symptoms were somewhat relieved but the urine was not rendered sterile. The patient was then given four capsules of hexylresorcinol after each meal, the amount of water being decreased so that the concentration of the drug in the urine would be increased. No alkalis were given. This treatment was carried out for six weeks, with complete relief of symptoms; however, the cultures were still positive but the number of colonies had greatly decreased. It is most likely that this infection had involved the kidney parenchyma, for it is quite unusual to have a simple pyelitis existing over a long period of time. One of the patients with a staphylococcus pyelitis was seen during the first attack and was given one renal lavage with 1 per cent solution of silver nitrate. She was then given three capsules of hexylresorcinol after each meal for five weeks. Kidney cultures were taken every week, and on the third week the urine was sterile and remained so.

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[14] Helmholz, H. F.: Drug Therapy in Pyelitis, J. A. M. A. **79**: 285 (July 22) 1922.

[15] Leonard, Veador: Secretion of Bactericidal Urine and Disinfection of Urinary Tract Following Oral Administration of Certain Alkyl Derivatives of Resorcinol, J. A. M. A. **83**: 2005-2012 (Dec. 20) 1924; J. Urol. **12**: 585 610 (Dec.) 1924.

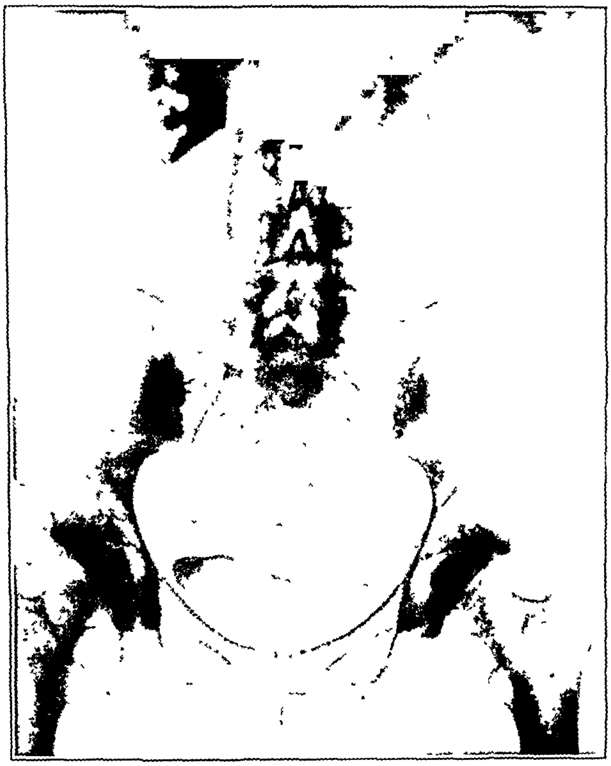

Fig 2.—Decrease of pelvic capacity following birth of child.

The third patient, who had had her right kidney removed several years before, developed a staphylococcus infection of the bladder and the remaining kidney. She received no treatment other than hexylresorcinol, four capsules being given after each meal for six weeks. In a few days after the treatment was begun the symptoms had disappeared, but the urine did not become sterile until several infected teeth had been extracted and a bad pyorrhea had been cleared up. This case illustrates the importance of removing the focus of infection before a cure can be obtained.

According to Leonard, if the first few doses are associated with continued diarrhea, the dose should be reduced. None of my patients complained of this cathartic action.

After medicinal treatment has been tried with no avail, then catheter drainage and renal lavage must be considered. Some men believe that drainage is of more importance than lavage, whereas I myself feel that a combination of the two is the ideal method. In cases in which sterilization is not accomplished in a few treatments, I allow the catheter to remain in the ureter from two to eight hours, and once every hour 1 cc. of silver nitrate solution, from 0.5 to 1 per cent, is injected into the kidney. To some this may seem rather drastic, but in several obstinate cases which I have treated in this way the result was most gratifying. Hunner, in his ureteral stricture work, has always laid great stress on the fact that good drainage is of paramount importance and until this is established the infection will not clear up. This point was well brought out in a case of pyelitis with pregnancy which did not respond to kidney lavage until the ureter had been well dilated by the use of a wax bulb.

Stoeckel was the first to show that this method of treatment was valuable in toxic cases of pyelitis with pregnancy and that by its use the pregnancy could be allowed to continue. Several years ago with this type of infection the pregnancy was always terminated.

Renal lavage has been carried out with many different solutions; the ones most used are flavine and brilliant green, gentian violet, aluminum acetate, mercurochrome-220 soluble and silver nitrate, the last two being by far the most popular. O'Conor in his experimental work on dogs has shown that by injecting silver nitrate solutions, from 0.5 to 1 per cent, the mucosa of the ureter and pelvis undergoes corrosion with some destruction and associated with this there is a round cell infiltration in the submucosa. Regeneration takes place in about ten days. Cabot and Crabtree have been shown that in pyelonephritis the organisms are located in the submucosa of the epithelial lining of the pelvis and pyramidal tips. O'Conor[16] next carried out a series of experiments, using a 1 per cent solution of mercurochrome-220 soluble. He found that the dye penetrates the tissues deeply but causes no round cell reaction in the mucosa or submucosa. There was no loss of surface epithelium. If we are to cure the infection, we must use a drug that causes marked reaction with an outpouring of cells to combat the invading organism, and that is what silver nitrate does. Mercurochrome is more penetrating but causes no cellular reaction. In my work I use a solution of silver nitrate, from 1 to 2 per cent. Geraghty[17] advocated beginning with a 1 per cent solution and running up to 5 per cent, first being sure that the kidney could empty itself, for if the fluid became trapped, serious damage could be done.

In addition to this local treatment, it is of great importance to see that there are no foci of infection. In several of my cases the infection has cleared up promptly after the removal of abscessed teeth and diseased tonsils.

The number of treatments in my series varied from one to ten. In the group of adults with chronic infection, which numbered twenty-five, twelve were cured; that is, the urine was sterile and free from pus. The remaining patients were greatly improved, so much so that they would not return for further treatment. The group of patients with pyelitis associated with pregnancy, numbering twenty-one, were all carried successfully to term, with the exception of one in whom labor was brought about at the seventh month. Of the ten children reviewed, eight were cured with medicinal treatment, whereas the remaining two were treated with renal lavage and were cured.

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[16] O'Conor, V. J.: Lavage of Renal Pelvis, An Experimental Study, J. A. M. A. **77**: 1088 (Oct. 1) 1921.

[17] Geraghty, J. T.: The Treatment of Chronic Pyelitis, J. A. M. A. **63**: 2211 (Dec. 19) 1914.

840 Park Avenue.

TRICHINOSIS

REPORT OF FOUR CASES, WITH RECOVERY, OCCURRING IN THE UNIVERSITY OF MICHIGAN STUDENT HEALTH SERVICE

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The cases of trichinosis reported here afford an unusual opportunity for study, not only from the clinical aspect of the disease, but more especially from the early pathologic invasion of the tissue to the development of the encysted forms. The accompanying photomicrographs serve to bring out this point more clearly. The cases are also interesting, because those having the disease were not, with the exception of one, seriously ill. Trichinosis has been classed in the textbooks, as well as in the current literature, among the rarer diseases, but the belief is becoming more and more prevalent that it is not so uncommon, for there are a large number of cases that have been observed and the diagnosis never made. It is not an uncommon occurrence for the pathologist to find trichinae in pieces of muscle tissue contained in pathologic specimens.

The case reports here given are those of four university students who attended the Illinois-Michigan football game at Champaign, Ill., Oct. 18, 1924. They had their noon meal in the same restaurant and ate pork that was insufficiently cooked. One of the students remarked at the time that the pork, which was roasted, was rare. Although many Michigan students and supporters ate at the same restaurant, these four were the only ones coming to our attention who developed trichinosis. It is logical to assume that many others probably were infected with the parasite, but were so mildly affected that their condition either was not recognized or did not come to the attention of a physician. Because of this fact, it might be well to review a few of the most important features concerning the disease.

SOURCE OF INFECTION, OR ETIOLOGY

The usual method of infection in man is by eating pork containing trichina; the hogs become infected from eating swill that contains the bodies of infected rats. The rats become infected from eating one another and from eating scraps of infected pork; thus the endless chain of infection.[1] The rats (and dogs) are important sources of infection, as far as man is concerned, in countries in which they are used for food.[2] The infection in man is regarded as more or less accidental, the lower animals being the normal hosts for trichina.[1]

The close relationship between the spread of the disease, its symptoms and signs and the life history of the parasite makes it necessary to bear in mind the three stages through which the worm passes. The encysted larva is the infecting stage, found in the uncooked or poorly cooked pork. When eaten, the cysts are destroyed by the digestive juices, and in two or three days the adult worm develops; the male impregnates the female and then dies. In from six to ten days, the embryos are discharged from the uterus of the female worm into the lumen of the intestine or into the lymphatics of the intestinal wall. These embryos wander with lymph or blood to the various parts of the body, the majority reaching the striated muscle and there developing into encysted larvae.

SYMPTOMATOLOGY

Blumer states that occasionally, following the consumption of infected pork, there is an acute gastroenteritis, which is due to the production of ptomains in the partly decomposed pork.

The first week of ingestion of the infected pork is the period of invasion or ingression, and during this period the worms are developing in the intestine. There may be loss of appetite, nausea, vomiting, periodic pains in the abdomen and diarrhea. Toward the end of this period, the first edema of the eyelids and face appear, and, from then on, embryos may be found in all the serous cavities.[1]

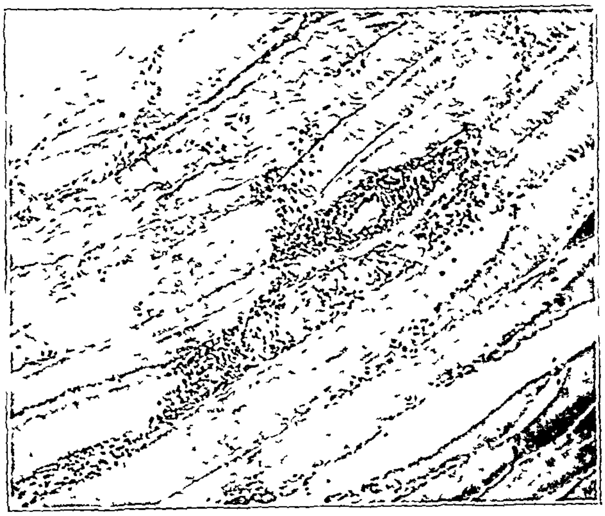

Fig 1.—Very early stage, showing perivascular infiltration and necrosing muscle fiber thirty four days after infection. This and the accompanying illustrations by courtesy of Dr Aldred Scott Warthin.

The second period is the stage of dissemination or digression and begins between the ninth and the fifteenth day. It is in this period that the muscle soreness (myositis) begins; it being due to the embryos attacking the muscles, after leaving the intestinal wall. Muscular tenderness occurs over the whole body, especially the biceps and the gastrocnemius; mastication is painful and even lateral movement of the eyes causes discomfort; subconjunctival and subcorneal hemorrhages are occasionally encountered. Pulmonary symptoms are common during this period and may be so severe that attention is drawn from the true disease.[2]

The third period is known as the period of encystment or regression and lasts from the time the larval parasite begins to encyst until the patient recovers. All symptoms are increased in severity; edema of the eyelids and face is present in the majority of cases. Cachexia is a striking feature and may be extreme.

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[1] Osler, William Principles and Practice of Medicine
[2] Nelson's Loose Leaf Medicine.

Profuse sweating occurs rather frequently. Fever occurs in even the moderate cases; in severe cases the temperature rises as high as 104 or 105 F. and lasts from two to six weeks, being intermittent or remittent in character. The pulse is correspondingly high.

PATHOLOGY

The intestinal mucosa is swollen and congested, and occasionally areas of erosion or necrosis of the epithelium are present; there is no local eosinophilia.[3] The liver may show parenchymatous changes and fatty degeneration, as may also the kidneys and heart muscle. The spleen and lungs are not infrequently congested, and bronchopneumonia is not uncommon.

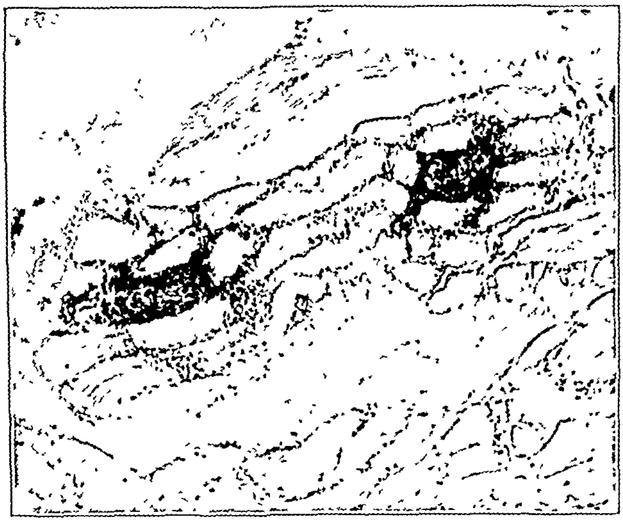

Fig. 2.—Early stage of muscle invasion: rather marked infiltration; twenty-eight days after infection

The lesions, when the embryos are being destroyed in the various parts of the body, take the form of hemorrhagic areas with infiltration of eosinophilic cells, endothelial cells and polymorphonuclear leukocytes. In the muscles in which the embryo is permanently lodged, the inflammatory tissue gradually organizes into connective tissue, and this acts as a capsule for the worm. At the poles of the cysts, groups of fat cells may appear; later calcification of the cysts may occur.

LABORATORY TESTS

If the disease is suspected early and diarrhea is severe, the male worms may be found in the stools. This examination is really unsatisfactory. The embryos are present in the circulating blood during the second stage. Salzer[4] found the embryos in the blood in nine out of fourteen cases. Embryos have also been found in the cerebrospinal fluid, Lintz[5] finding them first in 1914. Cummins and Carson[6] found definite changes in the spinal fluid pressure in their cases, but found the embryos in only one out of twelve.

Usually there are no characteristic changes in the urine, it being concentrated, highly colored, and containing a little albumin and a few hyaline casts. The diazo reaction is a rather constant feature.

The blood shows an eosinophilia, ranging from 15 to 60 per cent., and even as high as 80 per cent. There is a leukocytosis, which varies from 15,000 to 30,000. The eosinophilia varies from day to day and from week to week and may continue for months. The eosinophilia is not an indication of the severity of the disease, for patients who are affected mildly may have a marked increase in eosinophils.

DIFFERENTIAL DIAGNOSIS

Trichinosis may be mistaken for frontal sinusitis. Trichinosis may also simulate meningitis, but in both these cases the eosinophilia would direct attention to the parasite infection.

Dermatomyositis, or pseudotrichinosis, has characteristics very similar to trichinosis. Here again the chief differential point is the eosinophilia.

The diagnosis of typhoid fever is perhaps the commonest mistake. The leukocytosis with an eosinophilia, negative Widal reaction, and blood, urine and stool cultures negative for *Bacillus typhosus* are the chief differential points.

TREATMENT

Medicinal.—Seymour[7] states that, although there is no known drug that will kill the parasite, an initial purge with castor oil or calomel followed by Epsom salt in doses of one-half to one teaspoonful daily is to be recommended. For an intestinal antiseptic, thymol in 5 grain (0.3 gm.) doses three times a day may be given. The treatment should be supportive in character. The results of treatment with serum, roentgen ray, radium, neo-arsphenamin and arsphenamin have not been encouraging.

Prophylactic.—The cooking of pork thoroughly is the first and safest method toward preventing the occurrence of the disease in man. Ransom and Schwartz[8] found that the trichina larvae are readily destroyed by exposure to a temperature of 55 C. "This temperature may be considered as the thermal death point." They also found that the larvae may recover, when exposed to the same degree of temperature for shorter lengths of time. They concluded, from their investigations, that a temperature of 137 F. (58.3 C.) should be the minimum temperature to which pork

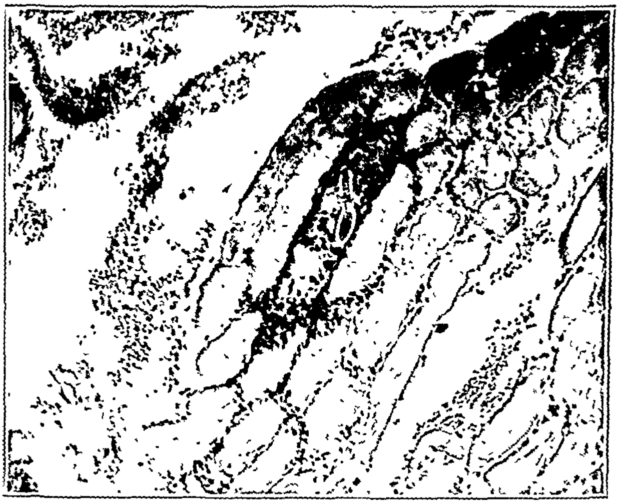

Fig. 3.—Early stage of trichina invasion of muscle fibers: a young larval form, twenty-eight days after infection.

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[3] Tice's Loose Leaf Medicine.

[4] Salzer, B. F.: A Study of an Epidemic of Fourteen Cases of Trichinosis, J. A. M. A. **67**: 579 (Aug. 19) 1916.

[5] Lintz, William; and Van Cott, J. M.: Trichinosis, J. A. M. A. **62**: 680 (Feb. 28) 1914.

[6] Cummins, W. T., and Carson, G. R.: Trichinosis: A Study of Fifteen Cases, J. A. M. A. **67**: 806 (Sept. 9) 1916.

[7] Seymour, Malcolm: Trichinosis in Italians, J. A. M. A. **56**: 1030 (April 8) 1911.

[8] Ransom, B. H.: Effects of Heat on Trichinae, J. Agric. Res. **17**: 201 (Aug. 15) 1919.

should be heated, the difference between this temperature and the thermal death point being a reasonable allowance as a margin of safety. Ransom,[9] in an earlier paper, reported his investigations on the effect of heat on trichina. He found that pork, especially pieces that were very large, should be cooked from two and a half to three and a half hours in order that the temperature of the entire piece may be raised to 137 F., which is the point of safety. It is generally known that smoking as well as salting will kill trichinae in the outer layers of the meat, but it is doubtful whether or not the trichinae in the inner portions are destroyed. The other methods of prophylaxis, such as meat inspection and the like, will not be taken up here.

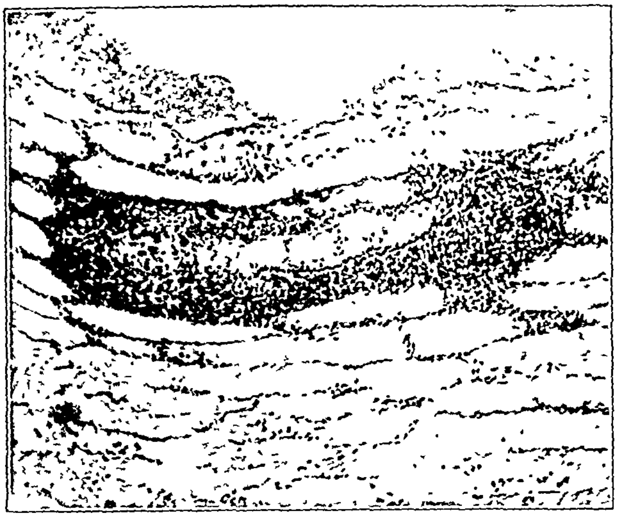

Fig. 4.—Early stage of muscle invasion: very marked infiltration; small larval form in cross section; twenty-eight days after infection.

PROGNOSIS

According to Blumer,[2] the mortality of trichinosis in the United States is about 5 per cent. In Germany, where the outbreaks are more frequent and larger, the mortality is much higher, sometimes reaching as high as 30 per cent. The prognosis depends on several factors, such as the number of parasites ingested, the number of embryos in the intestine, the degree of toxemia and the complications, especially pulmonary. Vance and Rider[10] reported a series of seven cases in the same family, three of the patients dying in sixteen, twenty-two and twenty-three days after the infection. Death apparently was due to the severe toxemia.

REPORT OF CASES

Nov. 5, 1924, two students (A. S. and G. R.) entered the infirmary, with rather marked elevation in temperature, their only complaint being swelling of the eyelids and face. The following day a third student (S. R. S.) was admitted, and on November 11, a fourth one; the latter two had the same complaint as the former.

Case 1.—A. S., a man, aged 20, complained of swelling of the eyelids and face. This had been ushered in by a chill, which occurred one week previous to entrance. There was constipation, since the onset of the illness. At the time of the examination—about the seventh day of his illness—the temperature was 101 F.; the pulse, 114, and respirations, 20. The face was edematous, especially about the eyes, and the conjunctivae and sclera were edematous and markedly suffused. There was some complaint of soreness, on rapid movement of the eyeballs. A slight difficulty in movement of the neck and jaws was due to soreness of the muscles involved. There was a slight herpetic eruption on the soft palate. The muscles of the extremities were not painful. The tongue protruded normally, but the mouth was opened with slight difficulty. There was a very tender occipital adenitis and a somewhat tender posterior cervical adenitis. On the second day after entrance, the intercostal muscles and diaphragm became involved, as was indicated by the increase in the respiratory rate (from 20 to 38). The remainder of the examination was negative.

Table 1.—*Blood Findings in Case 1*

Date	Leukocytes	Polymorphonuclear Neutrophils	Eosinophils	Basophils	Large Lymphocytes	Small Lymphocytes	Mononuclears and Transitionals	
11/ 8/24	22,400	55	30	0	5	6	2	1 E myelocyte
11/11/24	23,000							1 myeloblast
11/21/24	16,000	34	32	0	15	7	3	2 myelocytes
12/ 6/24	12,300	40	39	0	1	19	1	
12/18/24	11,000	54	21	0	0	21	4	

The urine was normal on all occasions. Examination of the blood showed a hemoglobin of 78 per cent.; red blood cells, 4,960,000, and white blood cells, 22,400. The eosinophils at the time of this examination—three days after entrance into the infirmary—was 30 per cent.[11] Table 1 shows the results of the remainder of the blood examinations.

November 15, the patient began to complain of sore throat, which gradually grew worse. There was a rise in temperature and a feeling of malaise. This complication no doubt prolonged the patient's stay in the hospital. The sixteenth day after entrance, or thirty-four days after infection, a piece of muscle was removed from the gastrocnemius and the pathologic report was: "trichinosis, the muscle showing numerous trichinae in the early stage of development, with active inflammatory reaction; early stage of muscle invasion" (Fig. 1).

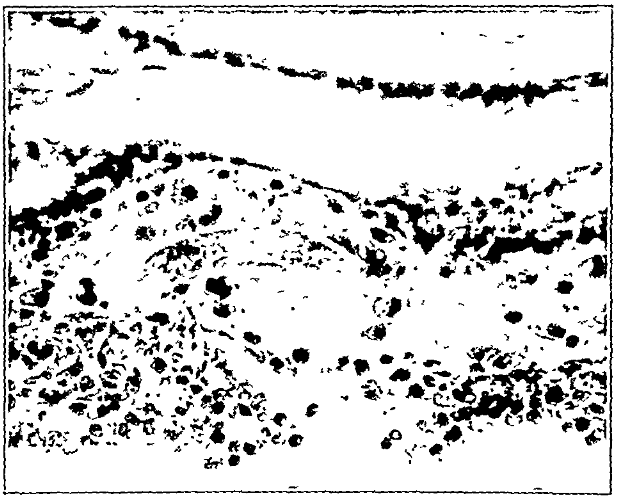

Fig. 5.—Comparatively early stage of muscle invasion, showing young larval form cut in longitudinal section (high power), twenty eight days after infection.

This patient was followed throughout the school year, and up until June he had no further trouble.

Case 2.—G. R., a man, aged 23, entered the infirmary on account of puffiness beneath the eyes, which began three days prior to entrance. He complained of slight gastro-intestinal distress and slight nausea (no vomiting or diarrhea) the week prior to his admission. On examination, there was rather marked swelling of the face especially in and about the orbital tissue. There was no pain on lateral movement of the eyeballs; some stiffness of the jaw muscles and soreness during mastication were experienced. The neck was somewhat stiff, and some difficulty was experienced on motion; there was no definite soreness or stiffness of the muscles of the extremities. The remainder of the physical examination was negative. The urine was normal on every examination. The blood findings are shown in Table 2. The thirteenth day after entrance, or forty-one days after infection, a piece of muscle was removed from the gastrocnemius muscle and examined for the parasite. The pathologic report showed the trichina more fully developed than in the first case (Fig. 6).

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[9] Ransom, B. H.: Effects of Refrigeration Upon the Larvae of Trichinella Spiralis, J. Agric Res 5: 819 (Jan 3) 1916.

[10] Vance, B. M., and Ryder, M.: Three Rapidly Fatal Cases of Trichinosis with Autopsy Reports, Proc. New York Path Soc 22: 52, 1922.

[11] Owing to an error on the part of the laboratory in making the Wright's stain, the eosinophils could not be demonstrated until the third day after admission, at which time new stain was obtained.

Table 2.—*Blood Findings in Case 2*

Date	Leukocytes	Polymorphonuclear Neutrophils	Eosinophils	Basophils	Large Lymphocytes	Small Lymphocytes	Mononuclears and Transitionals
11/ 5/24	11,000	..	.	..		.	.
11/ 6/24	11,300	82	0	0	0	16	2
11/ 7/24	13,400	70	12	0	4	10	4
11/12/24	30,200	51	24	0	1	22	2
12/ 1/24	17,000	65	23	1	1	10	0
12/12/24	13,000	71	2	0	4	22	1
12/17/24	14,100	79	1	0	1	16	3
1/ 6/25	5,900	50	16	1	3	28	2
1/20/25	7,700	53	10	2	5	24	6

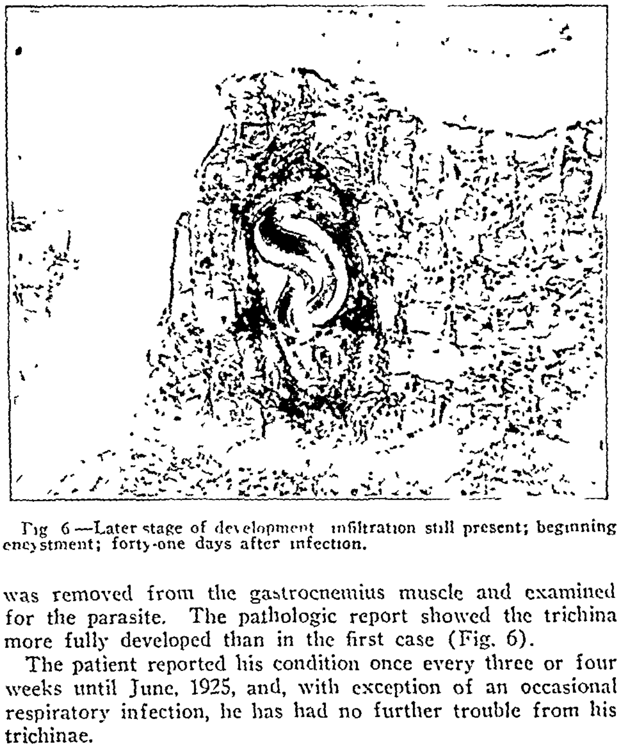

Fig. 6.—Later stage of development infiltration still present; beginning encystment; forty-one days after infection.

The patient reported his condition once every three or four weeks until June, 1925, and, with exception of an occasional respiratory infection, he has had no further trouble from his trichinae.

Table 3.—*Blood Findings in Case 3*

Date	Leukocytes	Polymorphonuclear Neutrophils	Eosinophils	Basophils	Large Lymphocytes	Small Lymphocytes	Mononuclears and Transitionals
11/ 8/24	11,000	60	13	0	7	15	5
11/10/24	12,000	60	22	1	6	5	6
11/15/24	15,300	62	20	0	10	4	4
11/24/24	11,900	68	17	0	7	6	2
12/ 3/24	9,700	55	20	0	0	23	2

Case 3.—S. R. S., a man, aged 20, was admitted to the infirmary, November 6, complaining of swelling beneath the eyes and stiffness of the jaws. The swelling had begun a week previously and gradually had grown worse. There was no history of gastro-intestinal disturbance prior to the onset of his illness. On examination, there was the characteristic edema of the eyelids and of the conjunctivae, but there were no subconjunctival or subscleral hemorrhages. Lateral movement of the eyeballs brought no pain, but there was definite difficulty experienced during mastication and on lateral movement of the head. This was accompanied by stiffness and soreness of the lower extremities, and occasionally a localized area of tenderness could be made out. The rest of the examination was unimportant. Successive urinalyses were negative. The blood findings are shown in Table 3.

The patient refused to allow a piece of muscle to be removed for pathologic examination. However, the edema of the face, especially about the eyes, the high fever, the muscle stiffness and soreness, the eosinophilia and the history of eating poorly cooked pork in the same restaurant with the other patients was sufficient evidence of trichinosis.

This patient was not followed very closely, because he withdrew from school shortly following his discharge from the infirmary.

Case 4.—G. D., a man, aged 19, entered the infirmary, November 10, with the characteristic complaint of swelling of the eyelids. There was no history of chills or fever, no gastro-intestinal disturbance of any type, no muscle stiffness or soreness up to the day of entrance. The examination revealed a generalized swelling of the face, more marked about the eyes. There was considerable conjunctival edema, but there were no subconjunctival or subscleral hemorrhages. On movement of the neck from side to side, there was evidence of stiffness. There was no pain on lateral movement of the eyeballs. Soreness and stiffness of the extremities were quite marked. The examination of the heart and lungs was negative, as was also the examination of the abdomen. The urine was normal on repeated examinations. The blood findings are shown in Table 4.

Table 4.—*Blood Findings in Case 4*

Date	Leukocytes	Polymorphonuclear Neutrophils	Eosinophils	Basophils	Large Lymphocytes	Small Lymphocytes	Mononuclears and Transitionals
11/10/24	6,700	61	28	0	6	5	0
11/12/24	3,600	58	12	0	5	22	3
12/ 2/24	7,000	51	26	0	0	18	2
12/11/24	6,400	68	1	0	0	29	2
12/18/24	8,700	57	15	0	3	21	4
1/ 6/25	5,000	53	7	0	2	34	4

Five days after entrance, or twenty-eight days after the infection, a piece of muscle was removed from the gastrocnemius for pathologic examination, which showed an early stage of trichina invasion of the muscle fibers; very young larval forms, and no well developed encysted forms (Figs. 2, 3, 4 and 5).

The patient, although apparently presenting one of the mild cases, continued to have muscle soreness for some weeks following his discharge from the infirmary. This gradually disappeared, and up to the time this paper was prepared he had had no further trouble.

COMMENT

As was previously stated, all four patients attended the Illinois-Michigan football game, Oct. 18, 1924, all ate in the same restaurant and all ate pork that was insufficiently cooked. In three of the four cases, pork had not been eaten for some time previous to that ingested on October 18. In one case pork had been eaten between the time of the trip to Illinois and the time of entrance into the infirmary. It seems almost impossible that the infection could have been acquired in Ann Arbor, because one of the students lived in a nearby city. Two of the patients ate at the same boarding house, while the fourth had no definite place at which he ate. This outbreak merely serves to call attention to the danger of improper handling of food that may occur at a time when large crowds temporarily gather, overtaxing the capacity of restaurants and lunch rooms. The incubation period in all four cases was from fourteen to twenty-two days.

Early in the infection there was no marked gastro-intestinal disturbance noted by any of the four patients; however, two weeks following infection vague gastric distress appeared in one patient. During the third week, one patient had severe vomiting and diarrhea, which were preceded by a period of marked constipation. Edema of the eyelids and conjunctivae was the most constant feature in all the cases. There were no subconjunctival or subscleral hemorrhages noted. Headache was a fairly constant symptom in all cases. All complained of muscle pain, especially marked in the calves of the legs. Other muscles that were involved were those of the arms, neck, eyeballs and those of mastication. The student with the severest attack had rather marked dyspnea on the second day in the hospital, but no other evidence of lung involvement was found. No definite areas of localized swelling occurred. The temperature varied between 101 and 105 F., and remained thereabouts from eight to thirteen days. The pulse rate was not raised in proportion to the temperature; however, in one case the pulse became very rapid and extremely feeble. Sweating was a rather constant finding; one of the students continued to have profuse sweats throughout his stay in the hospital. Insomnia was quite marked in all cases, and in the latter stage of the disease, wasting was a prominent finding. The blood in all cases showed a marked eosinophilia, which varied from day to day and from week to week. There was a leukocytosis in three of the four cases, which persisted throughout the course of the disease. The leukocyte count varied between 3,600 and 30,000. In one of the cases, the leukocyte count never rose above 8,500 during the entire course of the disease; on one occasion, the count was as low as 3,600. All cases showed an eosinophilia, the highest count of which was 39 per cent. The eosinophilia persisted, and at the end of two and a half to three months it was still above 7 per cent in all the cases. Repeated profuse epistaxis occurred in one patient, while a second patient had one attack. Erythema was present in only one case. The first patient presented a rather painful lymphadenitis, which gradually subsided. Franz,[12] in 1919, reported a case of trichinosis of the cervical lymph nodes. The swellings, which frequently recurred and were frequently operated on, were found to contain trichina cysts.

SUMMARY

The infection in four cases of trichinosis occurring in university students was due to eating pork that was insufficiently cooked.

The edema of the face, especially of the eyelids and conjunctivae, was the most striking feature. This, together with the high fever, the almost general muscle stiffness and soreness and the eosinophilia, furnished sufficient evidence of trichinosis.

Absence of any early gastro-intestinal symptoms was noteworthy and quite important.

One case showed no elevation in the leukocyte count throughout the entire course of the disease.

In insufficiently cooked pork there is a constant menace of trichinosis.

The diagnosis of trichinosis was confirmed in the three of the four cases by microscopic examination of pieces of muscle removed from the gastrocnemius.

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[12] Franz, J. I.: Trichinosis of Cervical Lymph Nodes, Proc. Path. Soc., Philadelphia, 22: 51 (April) 1919.

INHERITANCE OF PERONEAL ATROPHY

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Although the literature contains many references to cases of peroneal atrophy, very few records deal with it from the standpoint of its inheritance. It is with that aspect of the question that the present paper deals.

CLINICAL DESCRIPTION OF CASE

A. P., a man, aged 22, came to one of us (J. T. B.) for professional advice. Clinical examination revealed that he is suffering from peroneal atrophy. Figures 1, 2, 3 and 4 show the characteristic atrophy of the peroneal and calf muscles, in contrast to the normal musculature of the trunk, face and arms. The thighs immediately above the knees are wasted, but this is probably due to disuse. The skin over the thighs is warm and normal in color and texture; that over the legs is cold, cyanotic and slightly roughened. Between the two areas there is a distinct line of demarcation just at the knee, best seen in Figure 3. Roentgen-ray pictures of the legs and feet showed normal bone shadows.

The patient is mentally bright, earns his livelihood in a responsible position, is an accomplished pianist, and is keenly interested in music. His facility in piano manipulation attests to the excellent functioning of the musculature of the hands and arms. It is interesting to note how he manages the pedals of the piano, since all flexion and extension of the feet are impossible. The knees are held rigidly semiflexed, and the legs are lifted and lowered by the action of the thigh muscles.

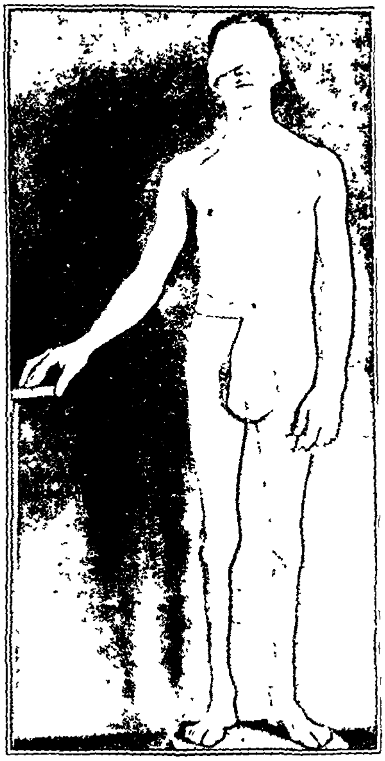

Fig. 1.—Normal musculature of upper part of body, and marked atrophy of lower part of thighs and legs. The patient supports himself with his hand.

FAMILY HISTORY

The patient's family history was obtained as fully as possible, he and his mother, who has a remarkable memory, cooperating heartily and intelligently. Two of the members of families in the fourth generation were written to, and the information concerning their brothers and sisters together with that relating to their respective families was thus obtained. We feel that the record is accurate. It is completely set forth in the chart of the family history, which includes five generations, composed of 101 persons in the direct line, of whom twenty-one are affected. The patient is represented as No. 40 in Generation IV. The earliest known member of the family, I, 1, was left an orphan, and knew nothing of his parentage. He came to Canada as a young man, and we can learn nothing of his collaterals.

EXPLANATION OF CHART[1]

I, 1, died at 70.

II, 2, affected late in life; died of old age; II, 3, affected at 40; died at 73; II, 4, died at 80; III, 1, died at 61; III, 2, died at 77; III, 4, died at 50; III, 6, died at 66; III, 7, aged 70; III, 8, died at 31; III, 9, affected at 25, died at 42; twin to III, 10; III, 10, affected at 18; died at 66; III, 11, died at 40; III, 13, died in infancy; III, 14, affected at 20, aged 64.

IV, 1, died at 54; IV, 2, aged 52; IV, 3, aged 50; IV, 4, aged 47; IV, 5, aged 45; IV, 6, aged 42; IV, 7, aged 39; IV, 9, died in infancy; IV, 10, died in infancy; IV, 11, died at 18; IV, 12, aged 46; IV, 13, affected at 16, aged 44; IV, 14, died at 38; IV, 15, affected at 24, aged 40, IV, 16, died in infancy; IV, 17, affected at 14, aged 38; IV, 18, died at 28; IV, 19, aged 28; IV, 20, aged 48; IV, 21, affected at 15, aged 41; IV, 22, aged 39; IV, 23, affected at 30, aged 37; IV, 24, aged 36; IV, 25, affected slightly, aged 34; IV, 26, aged 32; IV, 27, stillbirth, sex unknown; IV, 28, aged 29; IV, 29, stillbirth, sex unknown; IV, 30, aged 25; IV, 31, aged 23; IV, 32, aged 21; IV, 33, aged 40; IV, 34, affected at 25, aged 42; IV, 35, affected at 35, aged 35; IV, 36, died at 23; IV, 37, aged 30; IV, 38, died in infancy; IV, 39, affected at 12, aged 25; IV, 40, affected at 12, aged 22; IV, 41, aged 42; IV, 42, aged 31; IV, 43, aged 29; IV, 44, aged 27; IV, 45, affected before 18, aged 25; IV, 46, aged 23.

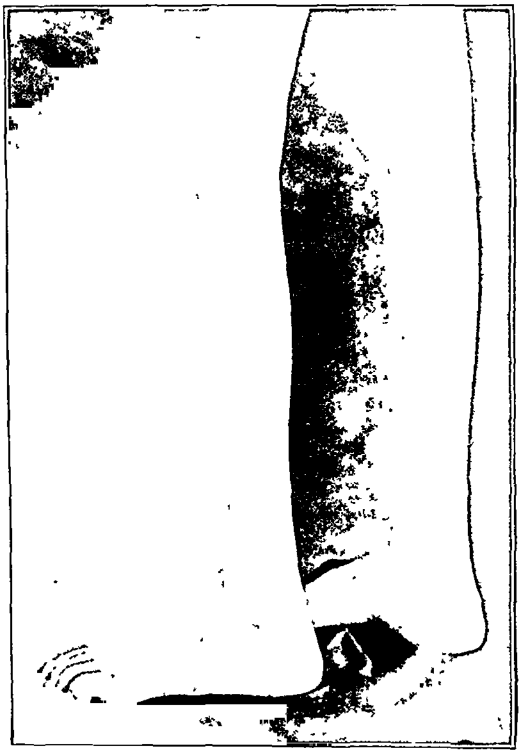

Fig. 2.—Cyanosis and roughening of the skin, as well as mottling; there is almost total absence of the calf muscles.

V, 1, aged 21; V, 2, aged 18; V, 3, aged 16; V, 4, aged 12; V, 5, aged 18; V, 6, aged 16; V, 7, aged 9; V, 8-11, living, ages unknown; V, 12, died in infancy; V, 13, aged 12; V, 14, aged 8; V, 15, affected at 12, aged 12; V, 16, aged 9; V, 17, aged 10; V, 18, aged 6; V, 19, aged 8; V, 20, aged 6; V, 21, aged 7; V, 22, aged 1; V, 23, aged 3; V, 24, aged 3; V, 25, aged 6; V, 26, aged 4; V, 27, aged 15; V, 28, aged 12; V, 29-34, exact age unknown, but all under 10.

ANALYSIS OF CHART

It is evident from the chart that here is a marked strain of inheritance for peroneal atrophy, the disease having persisted through at least five consecutive generations. It is just appearing in the fifth. It is very probable that many persons born of affected parents, who are here recorded as free, will ultimately develop the disease, for the experience of this family shows that the onset has been delayed as late as the age of 40. It has never appeared earlier than the age of 12.

A cursory glance at the chart may suggest that the disease is being eliminated, since there is a constantly decreasing percentage of affected cases in each succeeding generation. Granted that the chart shows that there are 50 per cent. affected in the second generation, 38 per cent. in the third, 24 per cent. in the fourth, and less than 3 per cent. in the fifth, such percentages are misleading, since they encourage a hopeful outlook, which is not warranted. To arrive at a correct estimate, we must exclude from the record all persons born of unaffected parents (since the descendants of these have shown no tendency to develop the disease), and all those born of affected parents but who are still under 12 years of age. Even this will give too low a percentage, because we shall be including as permanently unaffected those persons, children of affected parents, who are now between 12 and 40, and who may develop the disease later.

A calculation on the basis given above shows that in the second generation there were 50 per cent. affected, 40 per cent. in the third, 41 per cent. in the fourth and 33 per cent. in the fifth. With the exception of the second and third generations, in which all who are going to develop the disease have done so, the percentages are too low; particularly is this so in the fifth, in which all the children of affected parents are still quite young. Hence the disease is not dying out as far as percentage of affected cases goes, and, if we consider the actual number of cases, it is increasing with each generation. This will continue if the affected persons prove as prolific in the future as they have in the past.

Considering the entire family tree collectively, we find that of the 100 persons in the direct line of descent, twenty are affected. By eliminating as before all those whose parents are clear of the disease and all under 12, the percentage becomes 40. There is little doubt that this will be still further increased by additions from that group who are between 12 and 40 and now regarded as clear.

What are the chances of an affected person transmitting the disease? The answer as just derived is that 40 per cent. of his offspring will inherit it, but we may approximate more closely to the ultimate percentage by considering only the limited number of affected persons who have reached 40, dealing as before only with those whose parents are affected. Of such cases, there are ten affected and seven unaffected descendants of the first patient. There are, in addition, four unaffected persons, probably over 40, but whose exact age is unknown, and two such affected persons. This makes a total of twelve affected to eleven unaffected, which comes very close to a 50:50 ratio. We may therefore conclude that an affected person is liable to transmit his condition to half his offspring.

Are all affected persons liable to transmit the disease? The chart answers this in the affirmative. True, of the twenty-one affected only eight have transmitted it, making a percentage of about 40. Of the remaining thirteen persons, however, seven have no children, and five have children too young to show the disease. The remaining person had a family of one, which is too small for purposes of deduction. Thus, we may exclude these thirteen cases, and say that of the eight descendants who had sufficiently large families of sufficiently advanced age for the disease to show if it were present, 100 per cent. transmitted the disease. We conclude that all persons affected with peroneal atrophy will transmit the disease to an average of 50 per cent. of their offspring, provided these are sufficiently numerous and live long enough to show it.

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[1] Where information is not given, it is unknown.

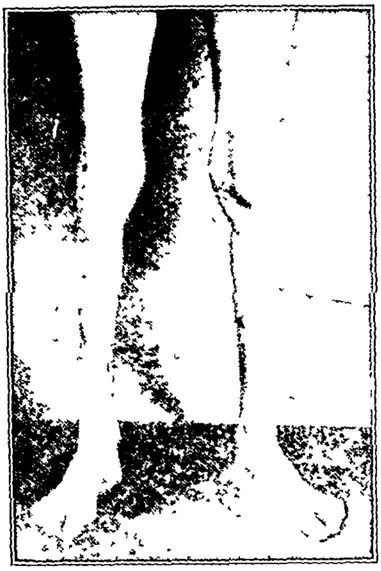
Fig 3—The line of demarcation between thigh and leg is well seen extending around the leg at the level of the knee.

Is it possible for members of an affected family who *themselves show no* clinical signs of the disease to transmit it to their offspring? Since the chart shows no unaffected person with affected offspring, we might think that freedom from objective evidence of disease means inability to transmit it. Such is not the case, for if a person has the hereditary taint of the disease without having manifested clinical signs, he is as potent to transmit it as if the disease were fully developed. Evidence of this is afforded by II, 3, a woman who had a family of fifteen children, six of whom were affected. She did not develop the disease until she was 40. It is highly probable that at least ten of her children, perhaps more, were born before she was 40, yet III, 4, certainly born before the disease appeared in the mother, and III, 9 and 10, probably born before that time, developed the disease. Had II, 3 died before reaching the age of 40, it would have appeared that the disease had skipped a generation. There are probably others who procreated affected offspring before exhibiting the disease themselves.

Does the disease tend to appear in or be transmitted by one sex more than the other? Ten males and eleven females were affected, but the males transmitted it only twice and the females, six times. Is the latter difference real or only apparent? Of the ten males who showed the disease, five have no children, two more have children below the age of incidence, and one had only one child. Of the remaining two in whom the capabilities of transmitting it are available for verification, both transmitted it. Of the eleven females with peroneal atrophy, two had no children and three have children still young enough to show it. Thus, 100 per cent. of the females, whose capacities for transmission we can verify, have passed it on. The probabilities are that males and females exhibit and transmit the disease equally.

There are several other questions that receive a tentative answer from this record. What is the age of onset of the disease? This is usually regarded as between 10 and 20, by most authors. In this family, it ranged from 12 to over 40, eight of the descendants being affected before 20; four, between 20 and 30; four, between 30 and 40, while one was affected at over 40. As to what induces the disease to appear in different persons at different ages is a question we are unable to answer.

On examining the age incidence when this is known, according to generations, we find that, in the second; it was over 40; in the third, 21; in the fourth, 20, and in the fifth, the only affected member is 12. Within the generations, there is great inequality in the age of incidence, and the average of the fourth is raised materially by the two descendants who were affected at 35 and 30. In twins, III, 9 and 10, not identical twins, the age of affection was 18 and 25, respectively.

There is thus observed a tendency for the disease to begin at increasingly younger ages in succeeding generations. This suggests the so-called law of anticipation that has been noted in pedigrees dealing with other diseases in which the affection develops at some time after birth. This has been referred to in several diseases of the eye by Nettleship.[2] Naturally, this law could not be at all rigid, else the age at which the first ancestor showed it would have been too great, or the age at which the present generation became affected would be pushed back into uterine existence. If there is a law of anticipation, it must occur in cycles. It is possible that those of Generation IV who showed it later than the others are the beginners of a new cycle and so appear contrary to the general law.

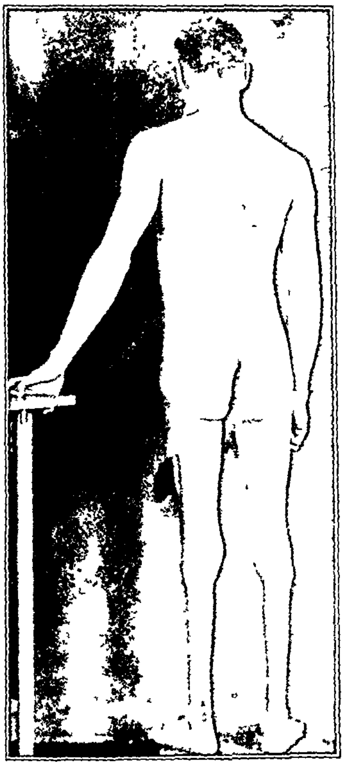
Fig 4—Normal upper part of body and marked atrophy of leg.

Does the disease have a detrimental effect on the length of life of the patient? Of the four who had peroneal atrophy and whose age at death is known, the average age at death is 58; of the eight unaffected cases in which the age at death is known, the average is under 55. There is here no great difference, the advantage resting with the affected. As to the length of life after the onset of the disease, one person lived forty-eight years, another thirty-three and another seventeen after the onset. Of those living affected with the disease now, the period of duration of the diseases varies from less than a year to forty-four years. It does not appear that peroneal atrophy shortens life.

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[2] Nettleship, E: Senile Cataract in Husband and Wife, Condition of the Lenses in Their Children and Grandchildren, Tr. Ophth. Soc U. Kingdom **28**: 220 226, 1908; Lamellar Cataract, Coppock Cataract and Retinitis Pigmentosa Affecting Different Members of the Same Pedigree, ibid **28**: 226 247, 1908 Nettleship, E, and Ogilvie, F. M: A Peculiar Form of Hereditary Cataract, ibid **26**: 191 207, 1916

In this family there is no tendency toward improvement in any case. The disease runs a gradual but progressive course, and there is no evidence of remissions toward the normal.

MECHANISM OF INHERITANCE

Is peroneal atrophy due to the presence of a unit character?

By a unit character we mean one that is carried within one chromosome, and distributed with it to half the mature germ cells. It will be present, therefore, in half the offspring. Conversely, for a quality not a unit character, the determiners are carried in two or more chromosomes, and it is only when those two or more chromosomes chance to go into the same mature germ cell that the resulting person has that quality. In such a case the percentage of affected offspring will be 25 or less, according to the number of chromosomes involved. To work out the number of affected offspring if the determiners are present in two or more chromosomes is merely a matter of application of the binomial theorem. We found that 40 per cent. of the persons in this record were affected, with the probability that this percentage would be still higher as the members of the family grew older. We may conclude that, with the ratio approximating 50:50, peroneal atrophy is due to the presence of a unit character.

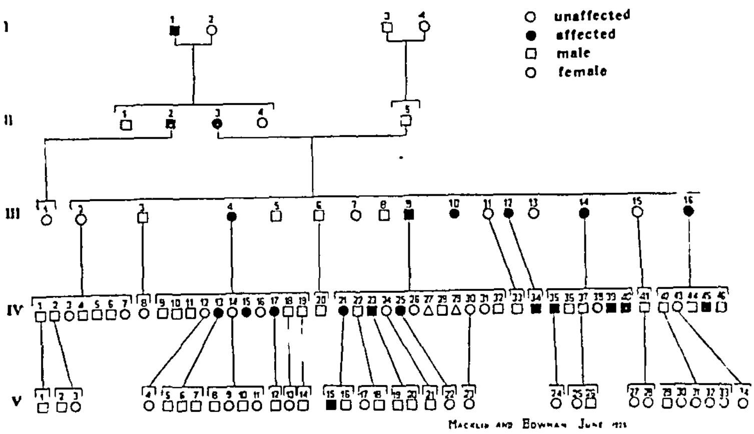

Fig 5.—Total incidence of peroneal atrophy in five generations.

Is it sex-linked and recessive, or merely recessive?

It is not sex-linked and recessive, for in such a mode of inheritance, the affected father has no affected children, but his daughters carry the disease latent and transmit it to their sons who exhibit it, and to their daughters who carry it latent. An affected father never transmits a sex-linked recessive factor to his son. As I, 1 passed the disease to II, 2, a son, and to II, 3, a daughter who actually showed the disease, we may discard this type of inheritance. The disease is not merely recessive, for it has not appeared in any children of unaffected parents. Moreover, if the disease were recessive, we should have to assume that the mates of every affected person in the chart carried the disease latent. It might be well to state here that no mate of an affected person in the chart had peroneal atrophy.

Is it sex-linked and dominant, or merely dominant?

If the disease were sex-linked and dominant, all the daughters and none of the sons of an affected father should exhibit it. The second generation again rules this out, for II, 2 was the affected son of an affected father, and II, 4 was the unaffected daughter of an affected father although she lived to be 80. Hence, the only remaining possibility is that the factor for peroneal atrophy is dominant and not sex-linked. In such a case, males and females should show it equally, transmit it equally, 50 per cent. of the offspring of an affected person should, on the average, show the disease and it should never appear in families in which the parents are unaffected. Within the limited number of cases here presented, the facts of this record are in accord with such a theory.

The literature states that sometimes the disease is familial, the heredity not being obvious. It is easy to understand how sporadic cases occur in this disease. There is no way of telling which persons are going to develop the disease, until the atrophy actually begins. As some persons do not develop it until relatively late in life, it is conceivable that if the parent transmitted the germ of the disease to his offspring, but died before developing it himself, the child would appear to come from free stock.

The conclusion that peroneal atrophy is due to a factor that is dominant and not sex-linked is at variance with that of Herringham,[3] which was deduced from the record of a family supposed to be suffering from peroneal atrophy. His record definitely suggests that it is due to a sex-linked and recessive factor, the only discordant note being that an affected father in one instance transmitted it to his son. Herringham states that this type of inheritance is not typical of the disease but of this family. Several factors may be responsible for this difference in conclusions. The family record may not have been given correctly by the family themselves; the women of the family may have tended to exhibit the disease late in life, and so have died before it appeared (the ages at which they died are not given), or, what seems more probable, the disease with which Herringham was dealing was not real peroneal atrophy. In the family reported by him, the atrophy of the forearms and hands was an almost constant feature. In none of the members of the family here recorded who have been examined has there been any atrophy of the hand or arm, and none of the members written to have ever referred to any atrophy except in the leg. Thus the question arises as to whether Herringham's cases were not distal myopathy. It is possible that the difference in the manner of inheritance is explicable on this basis. Certainly our study shows no tendency for males to be affected with peroneal atrophy while the females are exempt, or for the disease to be transmitted to affected males through unaffected females. It is possible that in the future some of these myopathies as well as other diseases which seem to overlap each other in their signs and symptoms may be distinguished from each other in part by the manner of their inheritance.

EUGENIC CONSIDERATIONS

It is obvious that a disease such as peroneal atrophy should be eliminated from society, if possible. Ways of accomplishing this at once suggest themselves. First of all, we would place the value of thoroughly educating the affected as to the certainty of their potency to transmit the disease. Continence, contraception and even sterilization might be enjoined.

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[3] Herringham, W. P.: Muscular Atrophy of the Peroneal Type, Affecting Many Members of the Same Family, Brain 11: 230-236, 1889.

No member of the family reported has inherited more than a single factor for peroneal atrophy. What would be the result of inheriting the factor from both parents is not known. In double dose, it might be a lethal factor and the individual unable to survive. If he did inherit a double dose of the disease, and lived to maturity, he would have 100 per cent. affection occurring in his offspring. Although it is a safe eugenic rule for persons having a dominant factor for disease in their family to marry if they themselves are free of it, the same cannot be said of peroneal atrophy, for one cannot tell until one is past middle age and so past the reproductive period whether one has inherited the disease. The only safe rule for all persons who are born of affected parents, or born of parents who died young but who had come of affected stock, is either not to marry or to take absolutely safe precautionary measures against having children. This applies to unaffected as well as affected children of affected parents.

We cannot refrain from mentioning here the important therapeutic value of the effect produced on the mental outlook of the patient by proper education as to the disease, by removal of any mystery or superstition connected with it, especially any idea that for the sins of some progenitor they were paying "even unto the third and fourth generation." An understanding of the situation as far as it is known and a grasp of the future possibilities has done much toward lightening the mental burden, although not curing the physical disability.

SUMMARY

In a family composed of 101 persons, twenty-one were affected with peroneal atrophy in five generations.

In this family, the disease is not transmitted by persons who do not have the disease, either manifest or latent.

It is possible for persons who have not yet shown the disease to procreate offspring to whom they transmit it. If the parent lives long enough, he will develop the disease. It is possible for the parent to transmit it to the offspring and for the parent to die before developing the disease.

Males and females exhibit the disease equally and probably transmit it equally.

Half the offspring of an affected parent are apt to be affected, provided the family is reasonably large and lives long enough to develop the disease. This applies to those parents who have the disease manifest at the time of procreation and to those who have the hereditary taint but have not yet developed it.

Having the disease appears in no way to affect the longevity of the individual.

The condition is apparently dominant to the normal and is not sex-linked.

For those individuals who belong in affected families, whether they themselves are affected or not, it is wiser not to have children in order to eradicate the disease.

What is Normal Weight?—The records from insurance data and from health examinations are proving that when a man or woman is in the best possible physical condition, the weight at that time is the normal weight. If you sleep well, eat adequate food, eliminate properly, exercise in the open air, do not tire easily, recuperate quickly, you are healthy. If you remain at practically the same weight with a possible slight seasonal variation, you are of normal weight for your type of build.—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 4.

CENTRAL FRACTURE OF THE ACETABULUM

REPORT OF CASE *

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Cases of central fracture of the acetabulum are not common. The proper diagnosis and the proper methods of treatment are still being disputed. Recently, articles were published by Coley,[1] Kleinberg[2] and Whitman,[3] and interest was aroused in this type of fracture. The compiling of the statistics and end-results will undoubtedly be facilitated by reporting fractures of this type coming under the surgeon's care.

REPORT OF CASE

History.—S. E., a man, aged 46, a book agent, almost totally blind, whose family history and previous history have no bearing on the case, and who, with the exception of progressive myopia, had enjoyed fair health, was hit by an automobile, July 5, 1924, and landed on the right side. He was taken to a hospital and had to be carried in, not being able to put weight on either leg. He experienced severe pain in the right hip, but refused to stay. He was taken home by a taxicab and carried up two flights of stairs. I saw him about an hour after the accident.

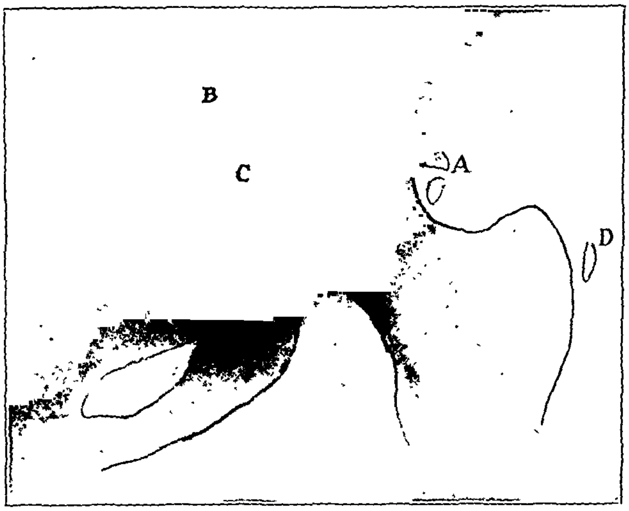

Fig. 1.—Appearance of fracture on first roentgenogram (retouched), taken at bedside in July, 1924: *A*, irregular comminuted fracture of the acetabulum especially involving the upper half; a small fragment lies external to the head and posterior to it; *B*, larger fragment internal to the acetabulum in the pelvis itself, probably from the center of the acetabulum; *C*, head displaced slightly upward and inward, having pushed partly through the acetabulum; *D*, small fragment broken off from the side of the great trochanter, lying just external to it.

Physical Examination.—The patient complained of severe pain in the right hip, and any jarring of the bed caused aggravation of the pain so that a proper examination could not be made. The patient kept the hip and knee flexed at an angle of 150 degrees, and the limb markedly inverted. With great difficulty we removed the clothing. Any motion of the hip produced spasm. It was hard to determine whether the head of the femur was dislocated posteriorly, but I was inclined toward that belief. Nélaton's line and Bryant's triangle could not be satisfactorily determined because of severe tenderness over the great trochanter. The flexion of the hip prevented careful examination of the groin. Measurements: R. A., 30½; R. U., 32; L. A., 31; L. U., 33.

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* Read before the Bronx Surgical Society, Dec. 23, 1925.

[1] Coley, B. L.: J. Bone & Joint Surg. 6: 458 (April) 1925.

[2] Kleinberg, S.: Ann. Surg. 78: 806 (Dec.) 1925.

[3] Whitman, Royal: Ann. Surg. 71: 62 (Jan.) 1920.

As the definite diagnosis could not be reached and the patient was in extreme pain, I thought it best merely to make him as comfortable as possible till the morning. (The examination was made at midnight.) The temporary diagnosis was a posterior dislocation of the head of the femur or a fracture of the great trochanter. A possibility of central fracture of the acetabulum did not occur to me.

I applied slight traction and abduction and was able to bring the leg into a better position. The pain was thereby diminished.

The next day being Sunday, I was unable to find a roentgenologist to take a bedside roentgenogram. Though the pain had somewhat subsided, he still suffered too much to be removed to a hospital. I therefore considered it best to immobilize the limb in a Thomas Jones splint till a roentgenogram could be obtained.

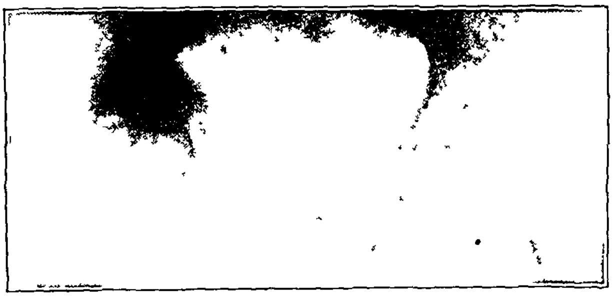

Fig. 2.—Condition, April 17, 1925: considerable callus of acetabulum; joint space good; the displaced head is clearly shown

With a little traction while the ring of the brace pressed against the pubis, I felt something slip and I was then able to get complete abduction in the same position as Whitman's method for fractured femur. The limb was then put in marked abduction and outward rotation and fastened to the side of the bed. The pain was relieved considerably.

The roentgenogram was taken in a day or two. The roentgenologist reported that the acetabulum showed an irregular comminuted fracture especially involving the upper half. A small fragment lay external to the head and posterior to it (fig. 1 *A*). Another larger fragment lay internal to the acetabulum in the pelvis itself, probably from the center of the acetabulum (fig. 1 *B*). The head was displaced slightly upward and inward, having pushed partly through the acetabulum. The greater trochanter of the femur showed a small fragment broken off from the side and lying just external to it (fig. 1 *C*). The roentgenologist made this diagnosis: "The patient has had a dislocation of the head of the femur with a fracture of the protecting portions of the acetabulum. The dislocation has been reduced, but the fragments of the broken acetabulum show a considerable displacement."

Progress.—The patient was kept in bed till August 8; i. e., five weeks. August 1, the traction of the Thomas Jones brace was released. August 8, he was permitted to sit up. Massage of the limb was begun, August 10. There was no interference with urinary or rectal functions throughout this time. August 12, he was permitted to get up on crutches and use the limb slightly. August 23, the examination showed that motion of the hip was free in all directions except to marked abduction. There was a great tendency to keep the limb in inversion.

Gradually the patient discarded the crutches and used a cane. If he had had good vision, he probably could have walked without a cane. The pain and limp diminished.

The examination five months later showed that the patient could walk in the street, and ascend and descend stairs. He still had a slight limp. He used a cane, mainly because of his poor vision. When watched and urged to walk in the house, the limp was hardly noticeable. He still had a great tendency to invert the entire limb. When ordered to evert it, he did it without much disturbance.

Feb. 4, 1925, a roentgenogram still showed evidence of a crushing fracture of the acetabulum. The head of the femur had been driven through the acetabulum into the pelvis. A large fragment of bone, forming the wall of the acetabulum, was displaced inward so that the spine of the ischium touched the sacrum. At that time the patient walked without a cane. He limped when walking rapidly but could move the hip freely even to abduction. Still he had a tendency to inversion. He experienced pain only in rainy weather.

Physical examination, Sept. 3, 1925, showed a slight flattening of the region of the great trochanter, and atrophy of the muscles around the trochanter. There was slight limitation to abduction and outward rotation. Inward rotation, flexion and extension were free. Knee and foot motion were good. The spine showed no deviation. Measurements:[4] R. A., 31; L. A., 31½; R. U., 33¼; L. U., 34½; R. T., 18; L. T., 18; R. K., 13¼; L. K., 13½; R. C., 12; L. C., 13.

A roentgenogram, September 26, showed complete union of the acetabular brim. The dislocation of the head with the rim was about one-fourth inch inward. The bone structure of the femur was good (fig. 3).

The accompanying illustrations show the progress of the union of the fracture.

COMMENT

This case represents the type of central fracture of the acetabulum in which there is also a dislocation of the head backward, probably an ischiatic luxation. This caused the marked flexion of the hip and inversion. A plain central fracture of the acetabulum does not usually give inversion, especially with flexion. A posterior dislocation of the head gives flexion and inversion, but the head can be felt posteriorly. Of course, the fracture of the tip of the great trochanter masked the symptoms a great deal.

Coley emphasizes that the history of a blow over the great trochanter, tenderness and disability of the hip joint are the cardinal symptoms of this fracture, but warns that a definite diagnosis can seldom be reached without a roentgenographic examination.

The question remains whether the dislocation was produced at the time of the accident or whether it was caused by the moving of the patient to and from the hospital by a hackman. It is my impression that the dislocation occurred at the time of the accident.

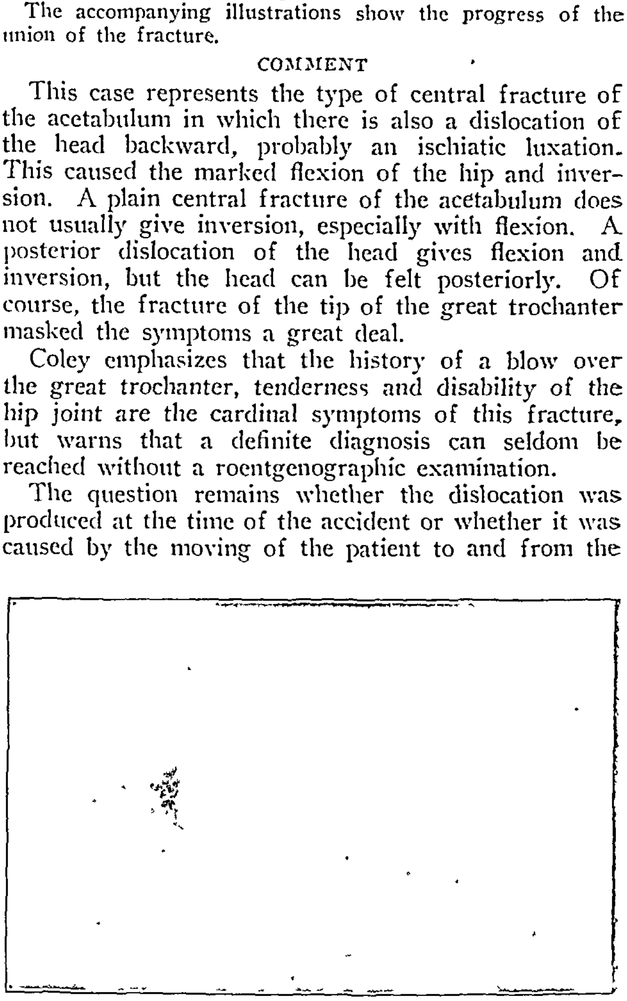

Fig. 3.—Condition, Sept. 26, 1925: complete union of the acetabulum brim; dislocation of the head with the center of the acetabulum, about one fourth inch inward; bone structure of femur good.

Figure 1 *A* shows that the upper and posterior part of the rim of the acetabulum is also broken off. The

head was therefore carried backward a great deal, though not completely dislocated. Speed [5] and Cotton [6] give the same explanation of fracture of the rim of the acetabulum.

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[4] The following letters are used by orthopedists to designate certain definite points from which measurements are taken: R. A., distance from right anterior-superior spinous process of ilium to internal malleolus; L. A., left anterior-superior spinous process; R. U., umbilicus to right internal malleolus; R. T., circumference of the right thigh, in this case taken at 8 inches above the lower border of the patella; R. K., circumference of right knee; R. C., circumference of right calf. The figures are in inches

The type of displacement of the head into the pelvis is that form which, by pushing through the cotyloid cavity, carries the acetabulum with it.

The reduction in this case was done without anesthesia, though I had originally intended using it. Though full reduction has not been obtained, the function is good. I did not attempt to change the position after the first roentgenogram, since I considered it a good position in view of the marked abduction permitted. I also took into consideration the severe fracture of the entire rim of the acetabulum. The end-result shows that one can hope for good function even when there is some displacement of the cotyloid cavity.

Subsequent roentgenograms showed that the position was retained but a great deal of callus thrown out.

The immobilization in a Thomas Jones splint, especially in combination with a Thomas abduction frame, can be employed for this fracture. This facilitates the treatment of the patient at home when he is not able or is unwilling to be treated in a hospital where a plaster cast can be applied. The Whitman abduction cast is better. (I have used it in several cases of central fracture and obtained very good results.)

The deficient vision of this patient interfered considerably with the progress, as he could not do the exercises properly. Still, in five weeks he was on crutches, and in six or eight weeks walking down the stairs.

SUMMARY

1. Central fracture of the acetabulum, though rare, does occur with sufficient frequency to be thought of when a patient falls or is thrown to the ground, as when struck by some vehicle.
2. An ischiatic luxation may occur when the rim of the acetabulum, especially the posterior part, is broken off.
3. It must be differentiated from a true posterior dislocation of the hip and fracture of the neck of the femur.
4. The immobilization can be obtained by a Thomas Jones splint in marked abduction.
5. Early use and exercises will be of benefit and produce proper function even in such severe fractures.

529 Courtlandt Avenue.

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[5] Speed, Kellogg. Fractures and Dislocations, Philadelphia, Lea & Febiger, 1916.

[6] Cotton, F J.: Dislocations and Joint Fractures, Ed 2, Philadelphia, W. B. Saunders Company, 1924

Maintenance of Health.—General health is usually maintained more easily when the amount of good food harmonizes with the ability of the digestive organs to take care of it easily. It does not take long for a normal individual to know what constitutes this amount. The welfare of the body depends not only on the amount eaten but on that which is digested and assimilated. If greatest efficiency can be maintained with a lesser quantity of food, why tax the organs with a greater supply?—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 19.

SEGMENTAL CEREBRAL MONOPLEGIA OF VASCULAR ORIGIN *

GEORGE WILSON, M.D.
AND
N. W. WINKELMAN, M.D.
PHILADELPHIA

The development of a paralysis of an extremity or part of an extremity presents a problem in diagnosis and, *ipso facto,* in treatment that is difficult and one in which error is likely to occur. Among the organic causes that may produce this type of paralysis are lesions of the peripheral nerves, of the vascular apparatus of an extremity, the anterior roots and horns of the spinal cord, and of the cerebrum. Hysterical segmental monoplegia is frequently seen, and the monoplegias of organic origin are often thought to be functional in type. After one has excluded by careful history and examination all lesions capable of producing monoplegia except a cerebral one, the question arises, What is the nature and location of the lesion? In the vast majority of cases, the site of the injury is in the motor cortex, and the exact area of the cortex involved will depend on the location of the paralysis. When we consider the nature of the pathologic process, the mode of onset is of great importance, but this cannot be depended on entirely in forming a conclusion. An acute onset usually means a vascular accident, although it may be seen in brain tumor.[1] One's opinion as to the nature of the lesion will be partly made by the progress of the case. A steady progression extending over weeks will clinch the diagnosis of a tumor or of an abscess, whereas if the condition remains stationary or even improves, vascular disease is more likely. An extremely localized area of encephalitis involving the

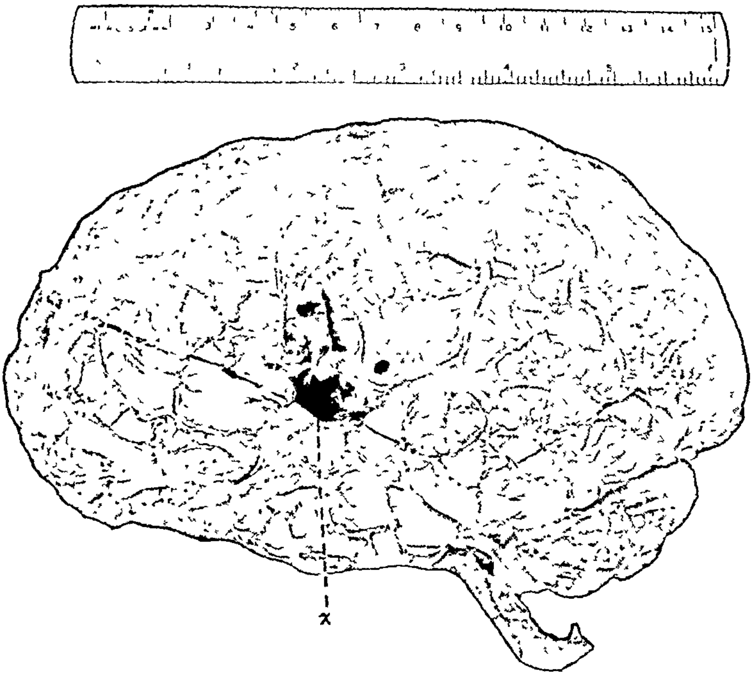

Fig. 1 (case 1).—Brain at necropsy: *x*, area of softening in left motor region.

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* From the Department of Neurology of the University of Pennsylvania School of Medicine, and the Neurologic Service and Laboratory of Neuropathology of the Philadelphia General Hospital.

[1] Wilson, George; and Winkelman, N. W.: Atlantic M. J. 28: 285-290 (Feb) 1925.

motor cortex may produce a partial or complete paralysis of an extremity. A history of trauma to the head will help to decide the etiologic factor. The following case reports, two of them with necropsy, are illustrative of the foregoing facts:

REPORT OF CASES

Case 1.—*History.*—A man, aged 70, suddenly developed a paralysis of the right side of the face and a disturbance of speech fifteen years before admission. These symptoms persisted for the rest of his life. He developed gangrene of the feet and died fifteen days after admission to the hospital. Necropsy showed a localized cortical softening. He was admitted to the neurologic service of the Philadelphia General Hospital, Feb. 8, 1924. His chief complaints were a paralysis of the right side of his face, "stuttering," and pain in his toes. Fifteen years previously, the patient suddenly developed paralysis of the right side of the face without loss of consciousness but with a disturbance of speech which he characterized as stuttering. The weakness of his face cleared up to some extent, and the difficulty in his speech became less noticeable. About nine months previously, he experienced pain in his toes and feet. The legs never swelled, but the right foot occasionally became red. He had frequent frontal and occipital headaches, which were relieved by pills. His sight had failed for some years, the vision being poorer in the right eye. The past medical and social histories were unimportant, with the exception that he had anthrax several years previously and a fracture of the skull nine years before.

Examination. — The patient was poorly developed and undernourished. The toes of the right foot were discolored and cold, and the pulsation in the dorsalis pedis arteries could not be detected. The lungs, heart and abdomen presented nothing of importance. He was partially blind as the result of cataracts; otherwise the eyes were normal. Slight ptosis of the right lid was present, and the right corner of the mouth drooped. The tongue protruded in the midline, and the soft palate was fixed on the right. There was definite dysarthria. All the deep reflexes were prompt and equal. Slight weakness and incoordination were present in the lower extremities.

Clinical Course and Outcome.—The condition of the foot improved during the first few days in the hospital. Ten days after admission the patient suddenly became weaker and sank into a stupor from which he could not be aroused. The left foot became gangrenous shortly before he died.

Laboratory and Necropsy Reports.—The spinal fluid and blood Wassermann reactions were negative; the urine was normal. The blood chemical findings were studied on two occasions and showed no deviation from the normal, with the exception of the estimation of the blood sugar, which was 125 mg. per hundred cubic centimeters. When the brain was removed, an area of softening (fig. 1) was seen in the left motor region, measuring 3.5 cm. in width and 4.5 cm. in length. The depth of the cavity was 2.5 cm. The area of softening did not extend below the sylvian fissure or behind the central fissure. On horizontal section, the bottom of the cavity lay against the external capsule and claustrum.

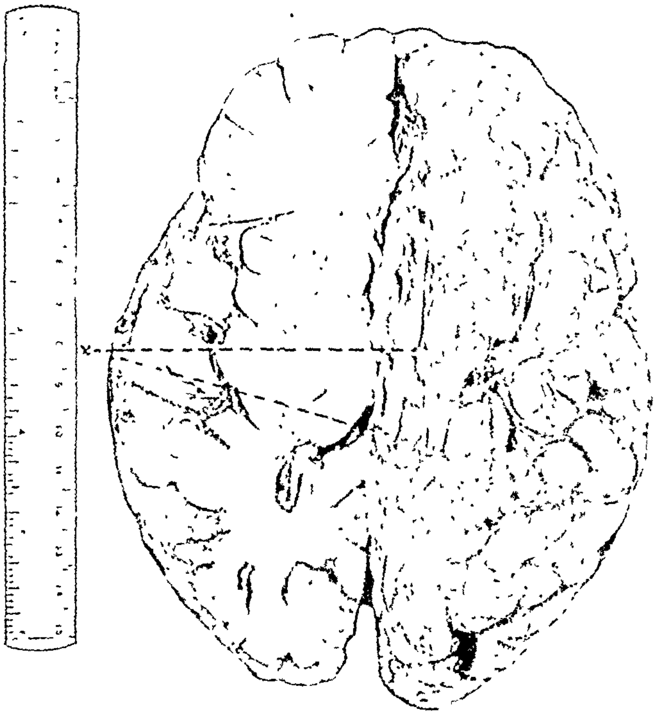


Fig. 2 (case 3).—Brain at necropsy: *x*, softening of right paracentral lobule.

This case represents a rather localized area of softening arising from occlusion of one of the ascending branches of the middle cerebral artery. Broca's area was intact, and the speech difficulty was a dysarthria rather than an aphasia. When the patient presented himself for examination, fifteen years after the onset, the right side of the face and palate were weak. There is no record of it in the history but from the extent of the lesion, it is likely that weakness of the right hand was present at the onset.

Case 2.—*History.*—A white man, aged 28, with subacute endocarditis, developed weakness of the left hand, left side of the face and headache. Eight days previously, his left hand became cold and stiff, and when he awoke on the following morning he could not move the fingers but could move the wrist, elbow and shoulder. He had no pain in the affected part but did complain of headache. In the eight days that had elapsed since the onset of the trouble, the condition had improved. He had inflammatory rheumatism in 1918 and gonorrhea in 1917, but he had never had a chancre.

Examination. — The systolic blood pressure was 160; diastolic, 75. The usual signs of aortic and mitral regurgitation were present. A marked weakness of the left hand, amounting to a total paralysis, and slight paresis of the remainder of the extremity, were found. The lower part of the left side of the face lagged on motion, and the tongue deviated to the left on protrusion. Speech, the left lower extremity, the gait, the plantar and abdominal reflexes, pain, touch, stereognosis and spot localization were normal. All the deep reflexes were present, with the exception of the left triceps, which was diminished. Sense of position was normal, except for slight impairment in the left little finger. Mental examination revealed nothing abnormal.

Clinical Course and Outcome.—The paralysis largely disappeared; later, a flare-up of the endocarditis occurred and the patient developed purpura. In a few months jacksonian attacks limited to the left upper extremity made their appearance, although in some there was an overflow and the spasms became generalized. He had the idea that he could control the fits by sitting on his left hand; this he constantly did, so that in time it became flattened as though it had gone through a wringer, and manipulation of the hand was feared because he said that it would bring on a spell.

The laboratory reports and examination of the eye grounds were negative.

In a great many ways this case resembles case 1. The fact that the lesion was on the right side of the brain would account for the absence of speech disturbance. The nature of the lesion in this case is undoubtedly vascular, either thrombotic or embolic. The presence of endocarditis and of purpura favored embolism. The occurrence of fits probably meant that an area of the cortex was unstable and threw out irregular discharges of motor impulses. Stengel and Wolferth,[2] in a paper on mycotic aneurysms, have pointed out that such a disturbance in the vascular apparatus is not unusual, and it is possible that in this case, after an embolus of infectious material, a mycotic aneurysm developed.

Case 3.—*History.*—A negress, aged 38, admitted to the Philadelphia General Hospital, Jan. 18, 1924, complained of weakness of the left side of the body, headaches, loss of memory and vision, and some loss of control of the urinary bladder. The present illness began two years previously with weakness, numbness and tingling in the left leg. Six months later there was an augmentation of the symptoms, in which the left arm and the left side of the face also felt peculiar and stiff and were the seat of formication. The speech was affected, and the patient became progressively weaker. Headaches appeared early and persisted. About one week before admission to the hospital, she became much worse and a partial paralysis of the right side of the body developed. The patient had had tonsillitis, malaria and rheumatism. She had been married eighteen years and had had one child and one miscarriage.

Examination.—The lungs and abdomen were normal. The heart was enlarged to the left, and a loud systolic murmur was heard over the entire precordium. The speech was slightly dysarthric. She was oriented but gave a poor record of her case. Weakness was present in all four extremities with exaggerated reflexes, bilateral Babinski reflex and ankle clonus on the left. The abdominal reflexes were absent. The pupils were dilated, equal, irregular and reacted sluggishly to light and in accommodation. The eye grounds were normal. As far as could be determined, sensation was normal. The patient could stand and take a few steps without support. Of the four extremities the left lower showed the greatest amount of paralysis and was extremely spastic, and the left foot and toes were permanently extended. The urine, blood and spinal fluid were normal. Before admission to the hospital, she had been actively treated for syphilis and had improved. The patient died twenty-seven days after admission to the hospital.

Pathologic Report.—When the brain was removed, the most prominent feature, aside from the generalized smallness and convolutional atrophy, was an area of softening in the right paracentral lobule measuring 4 by 2 by 2 cm. (fig. 2). When the brain was further examined, recent areas of softening were seen involving the basal ganglions and internal capsules, and minute areas of softening were also found in the occipital lobes. The left anterior cerebral artery could be traced as it wound over the genu of the corpus callosum, and at the summit a much constricted area was noted with obliteration of the remainder of the artery.

This patient had many vascular lesions throughout the brain. An occlusion of the anterior cerebral artery supplying the right paracentral lobule similar to a case described by Wilson[3] was noted. A sudden paralysis, spastic in character, in the left lower extremity without sensory loss was enough to localize the lesion in the cortex.

COMMENT

The term segmental cerebral monoplegia was first used by Spiller[4] in 1919. He reported four cases, in two of which were cerebral tumors confirmed by operation and in a third case was an unconfirmed tumor. The fourth was probably due to an occlusion of a small branch of the middle cerebral artery but was without necropsy.

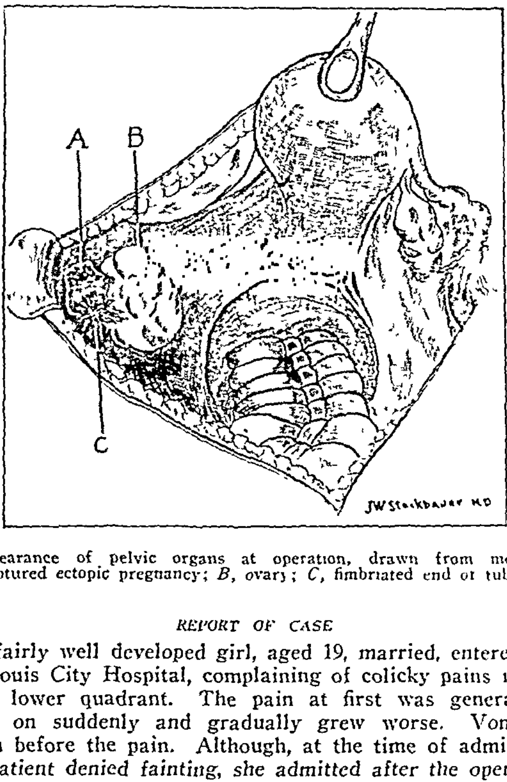
Most of the cases of cerebral monoplegia and segmental monoplegia have been due to slowly growing neoplasms or to injury. Clinical cases have been reported, of supposed vascular disease producing localized paralysis. The paralysis of an extremity or part of an extremity when due to a cerebral condition is practically always cortical.

Clinical Notes, Suggestions and New Instruments

ECTOPIC PREGNANCY OF AN ANOMALOUS FALLOPIAN TUBE

Joseph W. Steckbauer, M.D., Manitowoc, Wis.

This case is reported to put on record an unusual ectopic pregnancy. The symptoms in the case also suggested a pathologic condition on the right side, whereas the ectopic pregnancy was found on the left side.



Appearance of pelvic organs at operation, drawn from memory: *A*, ruptured ectopic pregnancy; *B*, ovary; *C*, fimbriated end of tube

REPORT OF CASE

A fairly well developed girl, aged 19, married, entered the St. Louis City Hospital, complaining of colicky pains in the right lower quadrant. The pain at first was general; it came on suddenly and gradually grew worse. Vomiting began before the pain. Although, at the time of admission, the patient denied fainting, she admitted after the operation that she fainted three or four times between three and seven hours after the first attack of pain. She began menstruating at the age of 14, and had had no dysmenorrhea. The menstrual periods were always irregular, varying from twenty-one to thirty days. The last period was twenty-eight days before she was taken sick. The last three menstrual periods were regular. There was nothing unusual noted in the last menstrual period.

The patient's lips were slightly paler than normal, but did not indicate any severe hemorrhage. The abdomen was tender in the region of the appendix, with rigidity of the right rectus muscle. The external genitalia were normal. The cervix was of about normal consistency, pointing downward and backward, and was freely movable, with no tenderness. The uterus was normal in size; it was in good position, with very little tenderness on manipulation. No adnexal masses were palpable. At the time of entrance, the temperature was 100.2; pulse, 120; respirations, 24. The white blood cells numbered 16,200, and the clotting time was four minutes

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[2] Stengel, A., and Wolferth, C. C.: Mycotic Aneurysms of Intravascular Origin, Arch. Int. Med. **31**: 527-554 (April) 1923.

[3] Wilson, G.: Crural Monoplegia and Paraplegia of Cortical Origin, Arch. Neurol. & Psychiat. **10**: 669-678 (Dec.) 1923.

[4] Spiller, W. G.: Contributions to Medical and Biological Research, Dedicated to Sir William Osler **2**: 1175, 1919.

A diagnosis of probable acute appendicitis was made, and I performed a laparotomy. A large amount of blood was found in the peritoneal cavity. The uterus was in the midline; it was about normal in size and consistency, and was in good position. The right adnexa were normal; the left side of the uterus had no structures attached to it. A pregnant fallopian tube was found attached high to the lateral wall of the pelvis. The tube was joined to the pelvic wall by a small pedicle; from this pedicle there was some thickening in the peritoneum, which terminated in the region of the internal ring. Close to the fallopian tube, a large ovary was found attached to the pelvic wall by a ligament. No connection between the tube and the uterus could be found The peritoneum of the bladder blended with that of the posterior culdesac and the anterior aspect of the rectum. No round ligament was present between the uterine horn and the inguinal canal, but when the uterus was pulled to the right and upward, a fold was found leading from the internal ring up toward the left horn of the uterus. The pregnant left tube was removed.

Speculum examination ten days after operation showed some cyanosis of the cervix and the vagina It was impossible to find any opening that could be connecting the anomalous tube on the left side with the vagina.

The patient made an uneventful recovery.

Commerce Building.

A RADIUM APPLICATOR FOR USE IN THE ESOPHAGUS

John H Fitzgibbon, M D., Portland, Ore

One of the chief requirements in the use of radium for carcinoma of the esophagus is a suitable method of application. The instrument illustrated (fig. 1) has been designed to simplify the technic of application, and to prevent discomfort to the patient while being treated. It consists of a radium capsule large enough to hold five 10 mg. radium needles. This is attached to a tapered spiral spring tipped with a perforated metal olive. At the upper end is a flexible piano wire. The threads are the same as in the bulbs of the Sippy esophageal dilator, and olives may be attached at any of the three points shown in the illustration, if desired, thus all or part of the instrument being used, as required. The groove at the base of the spiral is to aid in fastening a rubber filter over the capsule. A fountain pen bladder makes an excellent filter A small opening at the upper end is used to attach a thread to the capsule.

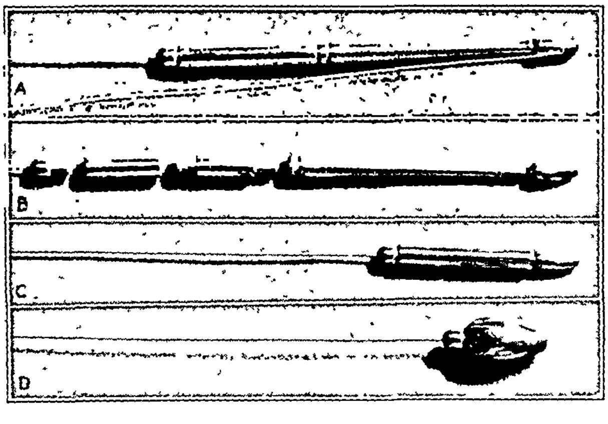

Fig 1.—Radium applicator for use in the esophagus: *A*, assembled parts of applicator; *B*, unassembled parts of applicator, *C*, capsule and olive tip without flexible spiral; *D*, wire and large olive to measure distance from incisors to stricture

METHOD OF TREATMENT

After the patient has swallowed a silk thread, the stricture is dilated to suitable size by use of the Sippy bulbs, and the silk thread guide left in place The next day, or whenever it is decided to apply radium, the patient is given a hypodermic injection of atropine. This stops secretion of saliva and mucus, which prove troublesome if not controlled.

After the injection has taken effect, the silk thread is passed through the olive tip of the applicator, and with the thread held taut, the instrument is easily passed into proper position. This position is determined by measuring from the top of the growth to the incisor teeth, and, with knowledge gained from fluoroscopy or esophagoscopy, the correct distance is marked off on the piano wire above the capsule. The instrument is passed until the mark is even with the incisors. To obtain this measurement, an olive may be attached as shown (fig. 1 D), and the piano wire used as a sound This prevents error from using a sound of less flexibility than the wire of the applicator. When the instrument is in place, a hemostat is attached to the wire at the level of the incisors, and is used to hold the instrument in position.

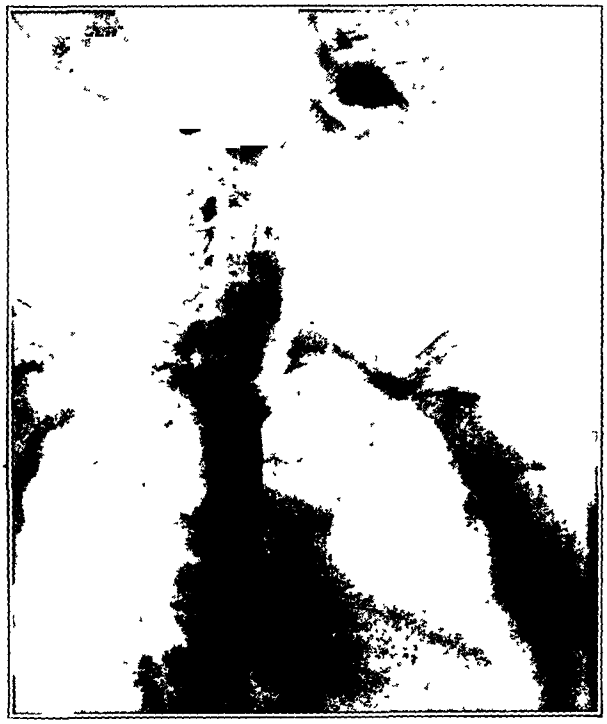

Fig 2—Appearance of applicator in position behind arch of aorta.

Fluoroscopy may be used to check the position of the capsule. It has been found, however, that by careful measurement the capsule can be placed as accurately as by fluoroscopy.

During treatment, the patient can sit in the office for four or five hours, without more than moderate discomfort. With only the small piano wire and silk threads in his mouth, breathing is not interfered with, and there is no choking, provided salivary secretion is controlled. It is usually necessary to repeat the dose of atropine at the end of two or three hours.

The applicator is manufactured by V. Mueller & Co. of Chicago.

Stevens Building

Definition of Health.—It must be understood that health is not to be defined as the absence of appreciable disease, but a state of well being, permitting self-support and a full measure of enjoyment in life according to age and condition. Thus we consider industrial rehabilitation, of graduates of the sanatorium or hospital, as part of the health job—Emerson, Haven: *Hospital Social Service* **13**:109 (Feb.) 1926

PAROXYSMAL TACHYCARDIA FOLLOWING THE USE OF AIR IN TESTING FALLOPIAN TUBE PATENCY

Richard A. Kern, M.D., Philadelphia

Because of the frequency with which air is used instead of carbon dioxide in the routine performance of the Rubin test for sterility, this case is put on record.

Nov. 11, 1925, Mrs. W. H. B. consulted a gynecologist because of sterility. A routine pelvic examination discovered no abnormality in the uterus and adnexa. Then, with the usual sterile precautions, air was injected, under manometric control, through a blunt nozzle into the uterine cavity to determine whether or not the fallopian tubes were patulous. The air apparently entered the abdominal cavity without obstruction. The amount was not measured, but the gynecologist believes that it was not more than the contents of one or two ordinary-sized hand-bulbs. The patient suffered no inconvenience and left the office immediately after the examination.

About an hour later, as she was about to board a train, she was suddenly seized with intense pain low in the left chest, in the anterior axillary line near the costal margin, and pain in the left side of the neck. The pain was intense in its severity and was made much worse by breathing. At the same time there began marked cardiac palpitation. She made her way back to the gynecologist's office, which fortunately was not far distant.

On being summoned from a neighboring office, I found the patient sitting on an examining table; she was in obvious distress, her face flushed and her breathing short and jerky. The heart action was rapid and tumultuous, but the pulse was of good quality. The rate at the wrist and the heart was 152. The heart was normal in size, the heart sounds of good quality in spite of the tachycardia, and there were no murmurs.

Since the pelvic examination had been negative and there were no lung signs, a lung embolism was considered unlikely as an explanation of the symptoms. On the other hand, pain in the lower part of the chest, referred to the neck and made worse on breathing, is not uncommonly seen as a transient phenomenon after the performance of the Rubin test. It therefore seemed logical to conclude that the patient's discomfort was due to the presence of a collection of air under the left dome of the diaphragm. If this was true, it seemed reasonable to expect a relief from pain if the patient was placed in a horizontal position. This was done, and after one or two deep breaths the patient, to her own great surprise, became entirely comfortable. To the surprise of the gynecologist and myself, her radial pulse rate, which both of us were counting at the time, as well as the rate at the heart, dropped almost immediately to the upper seventies and remained there. Five or ten minutes later we again asked the patient to sit up, and there was a prompt return of the pain but with a much diminished severity, while the pulse rose only slightly, going no higher than the upper eighties. On lying down, the patient again had prompt relief from pain. She was allowed to lie in this position for a time, the abdomen being massaged with a view to scattering and hastening the absorption of the intra-abdominal air. Examination of the heart at this time showed a normal rate and action; in fact, there was no discoverable cardiac abnormality. She was later able to return to her home and suffered only moderate discomfort during the rest of that day, if she remained in the upright position. That nearly an hour elapsed between the air injection and the onset of the pain was probably due to obstruction offered by intervening organs to the passage of the air.

Because of the abrupt offset in the heart rate from 152 to about 76, a change that required only a second or two, it seems justifiable to identify the circulatory disturbance as a paroxysmal tachycardia, even though no graphic confirmation was available. Its occurrence in association with air under the diaphragm and its relief immediately following a shift of the air from beneath the diaphragm justifies the assumption that the tachycardia resulted from the air bubble, probably a reflex effect.

The occurrence after the Rubin test of the type of pain described is a frequent one, but I have no knowledge of a paroxysmal tachycardia having been observed under the same circumstances. It is significant, however, that this rather severe circulatory disturbance occurred in a person with no evident preexisting cardiac disease. It is conceivable that a similar attack might result more easily in a person with a heart already injured—a heart, for example, the seat of widespread myocardial disease, and in that case might bring with it serious or even fatal consequences.

It is for this reason that this case is put on record, as a caution against the use of air in the performance of this test instead of carbon dioxide, as originally recommended by Rubin. The nitrogen, constituting 77 per cent of the injected air, remains unabsorbed in the peritoneal cavity for many hours, whereas carbon dioxide will be absorbed in a comparatively few minutes. The use of carbon dioxide offers but little greater difficulty in the performance of the test and will be a safeguard to the patient.

906 Medical Arts Building.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 553)

5. *Smoke Inhalation.*—This is carried on by burning drugs and inspiring the smoke. This time honored procedure has properly fallen into disuse, as the patient must inhale along with the volatile ingredients useless carbon particles that are liable to set up irritation. We now have at our command the means for administering to our patients the former without the latter. As a smoke inhalation for use in asthma, if such a one is desired, may be prescribed powdered stramonium, 2 parts, mixed with potassium nitrate and powdered anise, of each, 1 part.

MOUTH MEDICATION

MEDICATION OF MOUTH AND PHARYNX

The mouth and pharynx, covered by perhaps the least sensitive mucosa of the body as far as irritation is concerned, is the citadel of the sense of taste. Hence agents of disagreeable taste or flavor should not be inflicted, if as good an effect can be obtained in a more pleasant way.

Lozenges and Pastilles.—Troches (lozenges) and pastilles (jujubes), slowly dissolving medicated candies, form wherever applicable a delightful and thorough way of medicating the mouth and throat. Their use is limited, however, because palatable lozenges cannot be made of disagreeably tasting medicines; and to prescribe unpalatable lozenges is decidedly poor technic as there are other ways of applying unpleasant medicaments to these parts that do not force the patient to caress them with his tongue, or to swallow them. Still worse is it to give a patient, in this slowly dissolving form, unpleasant medicaments intended for action elsewhere or on the system at large when so many other methods are at our command for obtaining the same result.

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* This is the ninth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

From what has just been said, it will be easy to see why the lozenges of cubeb, of potassium chlorate, and of sodium bicarbonate have been deleted from the pharmacopeia. Had the remaining two, the troches of tannic acid and the troches of ammonium chloride, also been deleted, no mistake would have been made, for neither of them is really pleasant, and ammonium chloride is intended for action after absorption.

In addition to the active ingredient and flavoring, finely powdered sucrose (sugar) forms the main ingredient of lozenges, with from 2 to 4 per cent of tragacanth or from 5 to 10 per cent of acacia and sufficient water to form a dough. This is rolled out into a sheet of proper thickness, and cut into suitably shaped disks, generally of about 1 Gm. weight. They must then be dried; and it is chiefly because of the time required by the drying that lozenges cannot well be prescribed as extemporaneous preparations. Pastilles differ from lozenges in being made with a sweetened gum-glycerin-gelatin base. The quantity of gelatin ranges from 10 to 40 per cent, about 20 per cent being most commonly used. The larger the proportion of glycerin, the softer the pastille; the larger the proportion of acacia, the harder the pastille. The following might be considered average proportions for these ingredients: gelatin, 20; glycerin, 40; syrup, 20; mucilage of acacia, 30, evaporated to 100 parts. The mass, while hot, is poured into molds of suitable size and shape.

Among lozenges useful for local soothing action on the mouth and throat may be mentioned the N. F. Troches of Elm. The "liquorice gum drops" of commerce may serve as an example of pastilles. Both of these are quite palatable and useful in allaying tickling sensations in the throat, thus lessening cough, especially that which is increased by lying down. Palatable lozenges can also be made of ethyl aminobenzoate (also known as benzocaine or anesthesin) in doses of from 0.01 to 0.02 Gm. that are perfectly harmless, exert an anesthetic action on the mouth and throat, and lessen the sense of irritation in these parts and the resultant coughing. As ethyl aminobenzoate is a surface anesthetic, it will not relieve the deep seated pain of quinsy.

Pigments.—Pigments—liquids that are painted on or swabbed on—form one of the most serviceable methods of medicating the mouth and pharynx. The application is made by means of a cotton applicator or a camel's-hair brush, which should be moist but not dripping, for a drop might fall into the larynx, causing distress and even danger. Most patients can make such applications on themselves, and mothers or nurses may be taught to carry out this maneuver for children. Before applying a medicinal pigment, the general rule of removing exudate from the membrane should be obeyed. Thus, in follicular tonsillitis, an attempt should be made to clear the follicles of exudate with the aid of hydrogen peroxide solution, which may be used as a pigment even in its official strength. An important exception should be made in this regard in connection with diphtheria, in which the forcible removal of the false membrane is entirely uncalled for, as it not only causes bleeding but also is followed by the rapid development of a fresh membrane larger than the first. The removal of the pathologic deposit in other acute pharyngeal inflammations may be followed by painting astringent solutions, among which may be mentioned zinc sulphate, 2 per cent; zinc chloride, 5 per cent; alum, 5 to 10 per cent; tannic acid, 10 to 20 per cent; silver nitrate, 5 to 30 per cent. With all these excepting silver nitrate, glycerin forms a useful addition to the vehicle. Especially is this true with tannic acid, for which glycerin is not only an excellent solvent but also a preservative; the official glycerite of tannic acid, which contains 20 per cent of tannic acid, is a most eligible form of prescribing it. This preparation contains 1 per cent of sodium citrate in order to prevent the possible discoloration of the preparation from reaction between the tannic acid and the trace of iron contained in nearly all the glycerin on the market. In the case of silver nitrate, the curious fact has been noted that painting with a stronger solution is less painful than when a more dilute solution is employed. Painting the throat with a strong solution of silver nitrate, though it increases the distress at first, is usually followed by considerable relief in acute tonsillitis and pharyngitis. The application should be followed immediately by gargling with a salt solution. As this treatment of the throat of a person who has recently had a meal is likely to provoke vomiting, it is well to get ready for emesis before making the application. Silver nitrate painting should not be repeated oftener than at intervals of twenty-four or forty-eight hours. "Canker sores" in the mouth are best treated by touching them with a silver nitrate crystal or a "lunar caustic pencil." One such treatment usually suffices to relieve pain and expedite healing. If not, the application may be repeated in a day or two. An old-fashioned domestic remedy for application to ulcers of the mouth or gums is a mixture of borax (25 per cent) with honey of rose. In view of its alleged specific relation to ulcerative stomatitis, potassium chlorate might be substituted for the borax in the treatment of this condition. Borax glycerin (1:4) gently painted on four times a day is a useful application in thrush.

In granular pharyngitis, the hyperplastic tissue should be touched with caustic after preliminary cocainization. For this purpose, trichloracetic acid U. S. P. is probably best; the white corrosion thus produced is usually exfoliated within three or four days. The raw surfaces left may then with advantage be treated with silver nitrate or other astringent solution.

For thorough treatment of the pharynx it is necessary not only to paint the easily accessible and visible parts but also the nasopharynx, which can be reached by means of a curved wire applicator. In this connection it should be noted that a straight applicator passed through the nose is also capable of reaching the back wall of the nasopharynx.

In chronic pharyngitis, direct treatment of the pharynx, even though faithfully carried out, is often disappointing, owing to the fact that this condition is commonly secondary to nasal or accessary sinus affections, which must be cured in order to be successful in remedying the condition of the pharynx.

Lotions.—A lotion for the parts in front of the anterior pillar of the fauces is called a mouth wash; for those behind it, a gargle. Owing to more or less constant secretion of saliva and its sallowing, remedies do not remain long in the mouth or throat. The use of the remedy must generally be repeated frequently, every hour or oftener, to obtain decided action. It is best not to use food or drink immediately after such local application, so as to permit it to remain longer at the place where the action is desired.

Mouth washes may be fairly strong applications. Alcohol is tolerated by the mucosa of the mouth up to 25 per cent strength, but not stronger. Such lotions are most economically prescribed in concentrated form, to be diluted with warm water before using. They should, of course, be flavored as pleasantly as possible. Viscid substances and sugars, which are liable to decompose, should be avoided. Gluside (saccharin) is therefore a better sweetening medium for mouth washes than sugar. Though soaps are frequently added to mouth washes, there is not as real a need for them as there is on the skin. Mouth washes are generally made slightly acid or slightly alkaline, astringent, antiseptic or deodorant.

As there is no such thing as a real disinfectant for the mouth, it is poor technic to inflict the various unpleasant tasting antiseptic agents on this membrane. All that can really be expected from a mouth wash, in the direction of mouth hygiene, is that it aid the tooth pick and tooth brush in the physical removal of a culture medium for micro-organisms. Energetic swishing of the mouth wash back and forth and from side to side should be practiced rather than mere rinsing. The most that so-called mouth tinctures or dentifrices can do is to make the ordeal more pleasant by their esthetic qualities.

As dentifrices, the "Mouth Wash" of the N. F. may be chosen, or else an alcoholic solution of oil of peppermint, thymol and saccharin, 1 per cent each. A few drops of either of these solutions are added to warm water.

For the fairly normal mouth, brushing the teeth twice a day, morning and evening, suffices. If employed only once a day, the evening—just before going to bed—is the most important time, so as to leave as little culture medium in the mouth as possible during the long time that sleep interferes with the automatic cleansing of the mouth by salivary secretion and mastication. The diseased mouth should, in addition, be cleansed after each meal or even oftener. When, in stomatitis, the mouth is so sore that the tooth brush cannot be used, a useful aid to the lotion is the cotton-wrapped index finger. Solution of hydrogen peroxide, which on mucous membranes and raw surfaces with albuminous deposits plays a rôle similar to that of soap on the skin, may with advantage be employed as a cleansing lotion when exudate or necrotic material encumbers the cavity. It should be diluted with three or four parts of warm water. Taste correctives should, as a general proposition, not be added to hydrogen peroxide, as most of them are organic materials which, by their oxidation, would by just that much lessen the activity of the peroxide. In foul conditions of the mouth or other cavities, potassium permanganate is an unexcelled deodorant. It is most practically prescribed in the form of crystals, one or two of which added to water are enough to give it the rose to port-wine color that serves as a sufficiently accurate guide to the proper strength of the solution.

As an astringent mouth wash in the treatment of pyorrhea, the official glycerite of tannic acid (20 per cent) might be prescribed, to be diluted with from 10 to 20 parts of warm water to make a 1 to 2 per cent solution. Cinnamon is a good flavor for "covering" the flavor of tannic acid; and cinnamon water may be recommended as a diluent when a lotion ready to use is prescribed. Even in such a case, it is best to prescribe it in double the strength intended for use, so as to give opportunity for the addition of warm water, as washing the mouth with a cold lotion is not pleasant.

Tooth powders, as the "Dentifrice" of the N. F., or their more economic form, tooth pastes, help the process of tooth cleansing by the detergent qualities of a polishing powder. Only most finely pulverized substances, free from sharp edges, such as precipitated chalk, are admissible for this purpose. Pumice stone, though an efficient polisher, is too abrasive to be used frequently in mouth washing. Even chalk had better not be used more than three times a week.

It is impossible to keep a mouth containing carious or abscessed teeth in a clean and hygienic condition, no matter how much cleaning is done. The dentist must first put such a mouth in a cleanable condition.

A gargle is a lotion used for effect on the pharynx. Though the most commonly employed means of treatment of pharyngeal disease, it is on the whole an unsatisfactory method of medication. Its efficiency depends on the patient's expertness in bringing the fluid in intimate contact with the diseased tissue, an act not tantamount to the blowing of copious bubbles in the mouth, which so frequently passes for gargling. Ordinarily, gargles do not secure efficient medication behind the anterior pillars of the fauces. The best way to direct a patient to use a gargle is to have him almost swallow the fluid and reject it with a forward inclination of the head just before it goes down the gullet. When the gargle is thus used, its occasional swallowing is unavoidable. Therefore, the solution should be of such nature that it would not be harmful if swallowed. When the act of swallowing is impaired either by pain or by paresis, gargling is unreliable. In children, efficient gargling is out of the question, and in them medication of throat disease must rely on either the coarse spray thrown against the affected parts or the swallowing of medicated fluid, which can be secured by prescribing lozenges, or else by throat irrigation. The time honored use of a few drops of tincture of ferric chloride diluted with water in the treatment of scarlet fever no doubt owes its chief value to the astringent effect of the medicament in the throat.

(To be continued)

New and Nonofficial Remedies

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application. W. A. Puckner, Secretary.

CONCENTRATED POLLEN EXTRACTS-SWAN-MYERS (See The Journal, May 30, 1925, p. 1634).

The following products have been accepted:

Bermuda Grass Concentrated Pollen Extract-Suan-Myers; Costal Sagebrush Concentrated Pollen Extract-Swan-Myers; Elm Concentrated Pollen Extract-Suan-Myers; Johnson Grass Concentrated Pollen Extract-Swan-Myers; Redroot P[illegible] Extract-Swan-Myers; Sunflower Concentrat[illegible] Sweet Vernal Grass Concentrated Pollen [illegible] Dock Concentrated Pollen Extract-Swan-Myers.

Prepared by the method given in The Journal, May 30, 1925, p. 1634.

Value of Walking.—Walking simply for health is monotonous, uninteresting and often defeats the purpose for which it is taken. Walking which leads to a wholesome interest in other things helps to build the body, mind and spirit; helps to make of them that which is efficient, worth while and prepared. Walking is not a panacea for all ills, a harbor for all times of stress. But so far as exercise can help to cure or to comfort, walking holds for many individuals a measure heaped up and running over.—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 112.

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SATURDAY, FEBRUARY 27, 1926

VACCINATION AGAINST TUBERCULOSIS WITH LIVING BACILLI

Animal experimentation and clinical and epidemiologic investigation have laid a broad foundation for the doctrine that childhood infection with tuberculosis makes for adult immunity. In moderately crowded communities, 90 per cent of the population are infected before they reach adult years. Almost never is it known just how or when the infection was acquired, and one cannot even guess at the size of the infecting dose in any single instance. The tuberculin reaction is positive during life, and when the children die of some intercurrent disease, anatomic tuberculosis accounting for the reaction can be found.

Accepting the evidence that a primary infection with recovery and persistence of a latent focus protects against superinfection, and the dictum of men of long experience that "only the tuberculous are immune to tuberculosis," a few investigators have urged that it is illogical to leave to chance and haphazard dosage what might be accomplished with a known dose of an organism of known virulence. Since the days of Pasteur, attenuation of an organism to such a degree that it will not cause serious disease but will still stimulate resistance has been a goal sought for in many diseases, and in a few attained.

Calmette and Guérin believe that in a tubercle bacillus attenuated by thirteen years of growth on bile they have such an organism. Their experiments on calves and monkeys have already been noted in these columns.[1] Recently, with the collaboration of many French and Belgian physicians, they have applied their method to new-born infants, convinced by years of trial that it was harmless and at the same time highly effective in cattle. The vaccinated children all came from an environment in which open tuberculosis close at hand made natural infection seemingly inevitable. The records for 423 infants for the first six months after vaccination have been published.[2] Approximately one third of these children have been exposed within the family. In not one of them has a death occurred from recognized tuberculosis, although thirty have died from other causes. Calmette and his associates have compiled figures showing a mortality of 24 per cent in three years for nonvaccinated children of tuberculous parents living under similar conditions. According to a statement more recently published,[3] 4,517 children have been vaccinated since June, 1924, and further detailed records will appear shortly.

Almost simultaneously with the second report of Calmette and his colleagues, Selter[4] published results in the vaccination of nine children with living virulent tubercle bacilli. Selter is unqualifiedly committed to the theory that no tuberculosis immunity exists without the development of an actual lesion, and furthermore that coincident with this a positive tuberculin reaction should develop. Hence he is surprised by Calmette's published results with an organism that does not set up a lesion or stimulate tuberculin sensitiveness following vaccination. Selter, like many others who have written on this subject in the last fifteen years, believes that this sensitiveness, expressed in a rapid and active reaction to the same virus on reinfection, is the very basis of immunity. Although Calmette's results are empirically impressive, Selter finds them on a theoretical basis entirely unconvincing.

His own protocols leave no question as to the two points at issue, anatomic lesions and tuberculin sensitiveness. Doses of from twelve organisms to 10,000 living, human type tubercle bacilli were used. As in the case of Calmette's subjects, the infants were tuberculin negative when inoculated, but exposed to tuberculosis in their home environment. With the larger doses a nodule developed at the site of inoculation, followed in some instances by ulceration. Except in one case, in which only fifty bacilli were injected, sensitiveness to tuberculin developed more rapidly with the larger than with the smaller doses. In no instance did any detectable impairment of general health follow. One child died of pneumonia three months after the inoculation. At necropsy, no tuberculosis was found in the body except a focus of tuberculous granulation tissue at the inoculation site. Emulsions of the internal organs did not infect guinea-pigs, but tubercle bacilli were recognized by this method in one regional lymph node. In other cases the infants passed through severe intercurrent infections with no signs of an activation of the inoculation tuberculosis. Selter feels that the trial was well grounded on animal experimentation, and that the method has proved itself harmless. Nothing can be said as yet as to the resistance of these children to reinfection. Selter is cautious to state that the method will not replace "natural" inoculation, but is to be considered in the case of infants exposed to massive infection in their home environment.

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[1] Artificial Immunization Against Tuberculosis, editorial, J. A. M. A. **76**: 314 (Jan. 29) 1921; The Immunization of Anthropoids Against Tuberculosis, ibid. **85**: 826 (Sept. 12) 1925.

[2] Calmette, A.: Guérin, C.; Weill-Hallé, B.; Boquet, A.; Nègre, L.; Wilbert; Leger, M., and Turpin, R.: Essais d'immunisation contre l'infection tuberculeuse, Presse méd. **32**: 553 (July 2) 1924. Calmette, A.; Guérin, C.; Weill-Hallé, B.; Nègre, L.; Boquet, A.; Wilbert, and Turpin, R.: Essai de prémunition par le BCG contre l'infection tuberculeuse de l'homme et des animaux, ibid **33**: 825 (June 20) 1925.

[3] Weill-Hallé, B., and Turpin, R.: Premiers essais de vaccination antituberculeuse par le BCG, Presse méd. **33**: 1655 (Dec. 16) 1925.

[4] Selter, H.: Ein Versuch zur Tuberkuloseschutzimpfung des Menschen, Deutsch. med. Wchnschr. **51**: 1181 (July 17) 1925.

The only other trial of artificial infection of children on record is that of Webb and his colleagues.[5] The records are scanty, and the experiment does not seem to have been continued. But it is not surprising that so few of the many who have advocated inoculation in cattle have felt it justifiable to risk the experiment in children. The occasional generalized disease from supposed avirulent inoculation in animals only shows that some of the factors are still unknown. Strains of tubercle bacilli of the same type vary greatly in virulence, and animals react differently to the same dose of the same strain. Obviously, we still need much study of these factors before many men will feel safe in attempting to replace an undeniably uncontrolled yet somehow usually efficient vaccination to which man has involuntarily submitted since he first became gregarious. In the meantime, the practical effect of the vaccinations now on record will be observed with the scientific interest merited by attempts to control one of the most serious diseases that afflict mankind.

UNITED STATES SUPREME COURT DISTRUSTS THE HARRISON NARCOTIC ACT

The Harrison Narcotic Act was held constitutional by the United States Supreme Court in *United States* v. *Doremus,* 249 U. S. 86, decided, March 3, 1919. The defendant offered no argument against constitutionality, and yet four of the nine justices dissented from the judgment. Moreover, the doubt as to its correctness, shown by the divided vote, has increased. In a decision just rendered in *United States* v. *Daugherty,* Jan. 4, 1926, the court said:

> The constitutionality of the Antinarcotic act, touching which this court so sharply divided in *United States* v. *Doremus,* 249 U. S. 86, was not raised below and has not been again considered. The doctrine approved in *Hammer* v. *Dagenhart,* 247 U. S. 251; *Child Labor Tax Case,* 259 U. S. 20; *Hill* v. *Wallace,* 259 U. S. 44, 67, and *Linder* v. *United States,* 268 U. S. 5, may necessitate a review of that question if hereafter properly presented.

The cases pointed out as possibly calling for a review of the decision in the Doremus case include those in which the court held unconstitutional federal statutes designed to regulate, through taxation, child labor and the operation of grain exchanges within the several states.

The Child Labor Tax Law, approved, Feb. 24, 1919, undertook to regulate child labor by taxing industries employing children. Its purpose was federal regulation of child labor, independent of state laws. The analogy between that act and the Harrison Narcotic Act is therefore clear. But the court held the law unconstitutional, saying:

> Taxes are occasionally imposed in the discretion of the legislature on proper subjects with the primary motive of obtaining revenue from them and with the incidental motive of discouraging them by making their continuance onerous. They do not lose their character as taxes because of the incidental motive. But there comes a time in the extension of the penalizing features of the so-called tax when it loses its character as such and becomes a mere penalty with the characteristics of regulation and punishment. Such is the case in law before us. *Child Labor Tax Case,* 259 U. S. 20, decided, May 15, 1922.

The grain exchange case arose out of the Future Trading Act, approved, Aug. 21, 1921, which undertook to tax sales of grain for future delivery, so as to coerce boards of trade and their members into compliance with federal regulations. In holding the act unconstitutional, the United States Supreme Court said:

> It is impossible to escape the conviction, from a full reading of this law, that it was enacted for the purpose of regulating the conduct of business of boards of trade through supervision of the Secretary of Agriculture and the use of an administrative tribunal consisting of that secretary, the Secretary of Commerce, and the Attorney General. . . . The act is in essence and on its face a complete regulation of boards of trade, with a penalty of twenty cents a bushel on all "futures" to coerce boards of trade and their members into compliance. When this purpose is declared in the title of the bill, and is so clear from the effect of the provisions of the bill itself, it leaves no ground upon which the provisions we have been considering can be sustained as a valid exercise of the taxing power. *Hill* v. *Wallace,* 259 U. S. 44, decided, May 15, 1922.

The Harrison Narcotic Act, as clearly shown by the regulations made under it, has for its primary purpose the regulation of traffic in narcotic drugs; the tax is manifestly only an incident, introduced to give at least color of federal jurisdiction. One needs no knowledge of law, therefore, to see that if the principles underlying the unconstitutionality of the Child Labor Tax Law and of the Future Trading Act are applied to determine the constitutionality of the Harrison Narcotic Act, that act is likely to fall. Whether this would work an unmitigated evil is open to question. The act, like the Sheppard-Towner Act, represents federal encroachment on the constitutional rights of the states. As the court said in the Child Labor Tax Case:

> Grant the validity of this law, and all that Congress would need to do, hereafter, in seeking to take over to its control any one of the great number of subjects of public interest, jurisdiction of which the states have never parted with, and which are reserved to them by the tenth amendment, would be to enact a detailed measure of complete regulation of the subject and enforce it by a so-called tax upon departures from it. To give such magic to the word "tax" would be to break down all constitutional limitation of the powers of Congress and completely wipe out the sovereignty of the states. *Child Labor Tax Case,* 259 U. S. 20, decided, May 15, 1922.

Moreover, no satisfactory evidence has yet been adduced to show that the Harrison Narcotic Act has accomplished or is accomplishing its purpose, the suppression of the narcotic habit. Statistics adduced to show that narcotic addiction is less prevalent do not and cannot take into account with any degree of accuracy narcotic drugs distributed through underground channels. Nor do such statistics connect even such diminution as some of them purport to show with the operation of the act. The federal act, too, has probably tended to weaken state interest and control in the narcotic situation. If the question now raised by the United States Supreme Court does nothing more than lead to an earnest search to determine the worth of the Harrison Narcotic Act, it will have served a useful purpose.

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[5] Webb, G. B., and Williams, W. W.: Immunity in Tuberculosis: Its Production in Monkeys and Children, J. A. M. A. 57: 1431, 1911. Webb, G. B., and Gilbert, G. B.: Immunity in Tuberculosis, Further Experiments, ibid. 63: 1098, 1914.

GLUCOSE AS A FOOD

A layman's dictionary defines sugar as a sweet substance obtained by crystallizing the evaporated juices of certain plants. The chemist, on the other hand, has long employed the term to designate a group of carbohydrates having certain resemblances in molecular structure. Sweetness does not form the foremost criterion for his classification. To the untutored person ordinary sugar is essentially sucrose, the carbohydrate obtained most commonly in commercially pure form from the sugar cane and the sugar beet. He may recognize other carbohydrates as "sugars," but is accustomed to give them a clearly distinguishing designation, such as milk sugar or malt sugar. He will even specify less refined preparations of sucrose itself by similar appellations, designating the source of the material referred to, as in the case of maple sugar. In the latter instance it is the accompanying "impurities" in the form of maple flavor quite as much as the sucrose that determine the culinary use and the descriptive name of this familiar chemically crude "sugar." In popular parlance, the expression sugar has also at times been applied by extension to natural substances resembling sugar in taste and appearance but having neither chemical nor physiologic relationships to it.

In contrast with such carbohydrate substances secured in greater or lesser purity for dietary use directly from natural sources are carbohydrate products prepared through the intervention of chemical reactions in the factory manipulations. Prominent among them is the simple monosaccharide glucose, $C_6H_{12}O_6$, variously designated also as dextrose, grape sugar or corn sugar, which is produced readily by the hydrolysis of starch. Less familiar is the sugar fructose, also described as levulose or fruit sugar, and obtained by the hydrolysis of the polysaccharide inulin, which occurs in some tubers. Thanks to the development of our industries, both glucose and fructose can now be produced in abundance in crystalline form and excellent purity at a low price. Both substances are sweet. According to a recent study,[1] if the sweetness of sucrose is rated as 100, glucose has a value of 74 and fructose of 173. The unique sweetness of fructose (levulose) and the fact that glucose approaches cane sugar so closely in this respect will come as a surprise to most persons.

For reasons that inherent conservatism toward dietary innovations and psychology will for the most part readily explain, a popular prejudice was early developed against the products prepared by hydrolysis of starch and commonly designated as commercial glucose[2] or corn syrup, because of its most common cereal source. The objections have been directed against the circumstance that it is produced by "chemicals," without apparent recognition that the acid employed is necessarily removed before the product is marketed. It may be recalled that our stomachs also secrete a "mineral acid" comparable to what the glucose manufacturer uses to convert his starch to sugar. And glucose has been decried because it is an "artificial" product—without recognition of the fact that glucose is actually derived in the alimentary tract from starch, sucrose, malt sugar and milk sugar, and furthermore that it represents the form in which carbohydrate circulates in the blood. Glucose is thus *par excellence* the physiologic sugar.

With the use of glucose as a food preservative or dietary ingredient, the physician cannot find any fault. Even the cruder products, including some maltose and dextrins from the incomplete conversion of starch, have already found widespread application in American households. The debate at present centers about the provisions of the so-called pure food laws that militate against the application of the term "sugar" to glucose or fructose. It is argued that, since the public is under the impression that every sweet-tasting product derives its sweet taste from cane sugar (sucrose), deception can be avoided only by special notice on the label or by exclusion of other sugars. Legislation involving both requirements is now in force in many places. If a special label is required, the user of glucose (dextrose) is at a distinct disadvantage, since in the public mind such special mention is associated with deleterious substances that should be avoided by a careful and discriminating purchaser.

Legislation now under consideration[3] in Congress aims to modify the interpretation of the federal Food and Drugs Act so that food products shall not be deemed adulterated or misbranded "because of having been preserved or sweetened with an article commonly known as corn sugar, also with an article known as fruit sugar or levulose." From the standpoint of nutrition and health, no reasonable objection can be offered to this proposal. Care should be exercised, however, that the "sanctity" of the labels on food products shall not be violated in any respect lest the way be paved for abuse and fraudulent adulteration. The time has arrived when the public should be fully informed about the physiologic significance of the sugars and the proper place that each may find in the dietary. The manufacturer should abandon the never wholesome methods of surreptitious practice in the introduction of any sugar in the guise of a "substitute." Glucose no longer needs or deserves to be masked when it appears on the market. Corn sugar and cane sugar may properly become rivals on their intrinsic merits, economically, dietetically and physiologically.

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[1] Sugars and Sweetness, editorial, J. A. M. A. **85**: 977 (Sept. 26) 1925.

[2] It should be emphasized that in the new pharmacopeia "glucose" connotes the syrupy substance; the pure substance such as is used for treatment of hyperglycemia following a large dose of insulin is now described under the name dextrose (sometimes called d-glucose; formerly described also under the name anhydrous glucose). This may lead to confusion, as many physicians still speak of "glucose" injections, which under the new pharmacopeia are really "dextrose" injections.

[3] S. 481, H. R. 6759 and H. R. 7063. Corn Sugar as Preservative, General News, J. A. M. A. **86**: 494 (Feb. 13) 1926.

Current Comment

THE MENACE OF ASCARIASIS

"Sanitation is a development of civilization, and war, an antisocial activity, is alike inimical to civilization and to its product, sanitation." This thesis has received verification in more than one experience growing out of the World War. It might be expected that the efforts of preventive medicine would frequently break down here and there, owing to the stress of combat or the economic necessities of the day. There are, however, less obvious sources of hygienic danger. The enforced migrations of large numbers of persons have been instrumental in facilitating the spread of diseases previously more limited geographically. An illustration is afforded in the case of ascariasis, which recent reports indicate to be a far more pressing problem to the countries involved in the recent war than it was before the great conflict.[1] As recently as 1922 it was reported[2] from a French seaport hospital that in the two years following the war one of every three persons operated on vomited ascarids during the days following the operation. To those living in an American community, such a statement seems almost unbelievable. It is important, therefore, to realize the known but somewhat unfamiliar facts about one of the most important intestinal parasites, the eelworm. A single female ascarid can produce as many as 64,000,000 eggs, thick-shelled and extremely resistant to destructive agencies. They survive an exposure of days and months of heat or cold or desiccation. Furthermore, there is no longer any debate that the ascarid of the pig is identical with that of man. Contrary to popular impression, infestation is not merely a problem of the alimentary tract. The larvae hatched in the small intestine migrate extensively, often entering the lung, as Stewart[3] demonstrated ten years ago. Pulmonary ascariasis is a formidable malady. Ascariasis is averted by adequate sanitation. As the ascaris eggs, which may be swallowed and become the sources of human infestation, are not easily destroyed, the most promising preventive measure is that of general sanitation in the disposal of excreta. Ascariasis is largely a matter of community hygiene and individual cleanliness. It ought not to require elaborate measures or propaganda to eradicate this little suspected menace.

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[1] Cram, E. B.: Ascariasis in Preventive Medicine, Am. J. Trop. Med. **6**: 91 (Jan.) 1926.

[2] Le Courtois, M.: Thèse de Paris, *1922*, cited by Cram.

[3] Stewart, F. H.: Brit. M. J. **2**: 5 (July 1) 1916.

CHOLESTEROL METABOLISM IN INFANTS

With the growing recognition of the widespread distribution of cholesterol in living organisms and its probable biochemical significance for certain functions, interest in the origin and fate of this organic compound has increased. The importance of the subject, along with evidence for the capacity of animals to synthesize cholesterol, was indicated in a recent issue of The Journal.[1] The facts there reviewed have been supplemented with observations on human subjects by Fox and Gardner.[2] The data secured from actual balance experiments on breast-fed infants point to an actual utilization of the cholesterol present in the milk; the sterol is at any rate partially absorbed. During the first three months, a normal infant will gain as much as 70 per cent in weight. Cholesterol is an integral component of all the cells of the body, and from a quantitative standpoint a considerable increase in the total sterol content of the body must take place during growth. Fox and Gardner conclude that if the diet were the only source of cholesterol there could be, according to their information, no such marked gain. Consequently, they believe the conclusion inevitable that there must be some organ in the body capable of synthesizing cholesterol.

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[1] The Synthesis of Cholesterol in the Body, editorial, J. A. M. A. **85**: *1066 (Oct. 3) 1925*.

[2] Fox, F. W., and Gardner, J. A.: The Origin and Destiny of Cholesterol in the Animal Organism, XIV, The Cholesterol Metabolism in Normal Breast-Fed Infants, Proc. Roy. Soc. London B **98**: 76, 1925.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Held in Chicago, Feb. 15, 16, 17 and 18, 1926

Dr. Arthur Dean Bevan, Rush Medical College, Chicago, in the Chair

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

February 15—Morning

The Organization of the University Medical School

Dr. Arthur Dean Bevan, Chicago: The unabridged address begins on page 591 of this issue.

Cooperation in Education

Charles R. Mann, Ph.D., Washington, D. C.: Americans cooperate as a matter of course. In the field of education, every specialized group now has its organization through which the members cooperate. Every cooperating group is always working to achieve something specific. The advance in medical education because of the activities of this council is an impressive case in point. And if medical education could be isolated from other school procedures, the cooperative actions of this group would doubtless soon bring your specialty to a high degree of perfection. But medical education is not isolated. Therefore its progress is conditioned on cooperation between your group and others.

Examination of the activities of a number of groups of specialists shows that there is very little cross cooperation among them. The tendency among the specialist groups to play lone hands is evidenced by such hybrids as business English, calculus for engineers, physics for medical students or commercial arithmetic. The universal excuse is that the mass of subject matter that must be covered in each field is now so vast that it is impossible in the time available to do more than cover the subject matter essential to each specialty. Every specialist group is up against the same impasse; hence, the suggestion that perhaps the specialist groups might help one another. This suggestion is welcome to every one, but we must find a common objective that is specific and dynamic enough to command the attention and the service of all the specialized groups.

Every group has been thinking so intently about the technical requirements of its own specialty that it is difficult for its members to see the requirements of other groups. Besides, it has been the common practice for generations for each group to set up its standards and ruthlessly to weed out all students who did not measure up to them. If Johnnie failed to achieve the academic standards set by the schools, it was usually conceded to be Johnnie's fault.

Recently this attitude of both teachers and parents has changed radically. The change on this matter seems to have taken place very rapidly as a result, in large measure, of the war. The nation was so organized as to realize as far as practicable the man-power principle of placing every man at the work he could do best. It is respectfully suggested that the realization of this present man-power conception of education is a specific objective that is dynamic enough to command the enthusiastic service of every group of specialists.

What must be done to achieve the desired result? During the war, those in charge of sorting, placing and training men discovered that success depended on the answers to two questions; namely, What must be done? and, Who can do it? Answers to the first question were secured by writing occupational specifications, which are objective descriptions of what is actually done in every type of work. When a personnel officer has before him an accurate statement of the things that must be done on any job, he can, by interview, by tests, by study of a man's past, make a reliable estimate as to whether a particular individual can do a specified job well. By analysis of such specifications, school men can determine what are the "fundamentals" of curriculums. Accurate knowledge of what is done on a job is essential for the construction of tests that will reveal reliability whether or not a person can do the job well.

Many think that it is not possible to make a specification of such varied and intricate activities as those of a physician, a clergyman, a college president or an engineer, but surely the English language is equal to describing even the most intricate of activities.

These are but the brass tacks which one gets down to before anything real can be accomplished. The story of how aptitude tests and curriculums are evolved from specifications is fully as inspiring as the story just told.

The University's Function in Medicine

Henry M. Tory, Edmonton, Alberta: The function of the university in medical education became apparent just as soon as it became clear that biology, physics and chemistry are fundamental in the understanding and treatment of disease; that anatomy, physiology, pathology and bacteriology are but highly specialized branches of biology; that biochemistry is but the connecting link between biology and chemistry; that all science centers around the problem of life in general and human life as its highest manifestations; that the laws of nature of which these great sciences are but the expression are immutable and dependable and are not subject to control by either magic or chance or more human opinions.

The university must insist on the fundamental sciences being taught as university subjects with sufficient intensity to make the student realize that they are not incidental to but fundamental to a proper medical course. The instruction should be in the hands of full-time men.

The courses of study required in these fundamental subjects shall be long and continuous courses covering a sufficient range of material to afford a firm basis for scientific knowledge. The ignorance of many of our college graduates of the true bearing of science to life is evidence that many leave our universities as ignorant as they came. If this were not so, many of the quackeries of today would die a natural death.

There is a sense in which medicine may be regarded as a practical synthesis of the sciences in regard to the life she draws from every science. The standard of examinations must be university standards, not special ones designed to help out the members of a special faculty. If we depart for one moment from the foregoing ideas with respect to teaching and examinations, we can offer no criticism of the follies connected with the many quackeries from which the ignorant and thoughtless are suffering today.

The university should also function in determining the type of men who are allowed to enter the profession of medicine. The proper practice of medicine and surgery demands qualities, mental, moral and emotional, of the very highest order.

The university must function in medicine as the home of research. I do not believe that a university faculty can remain a vital teaching body otherwise. To do this it is absolutely necessary to have a full-time staff for all departments, including, if possible, the clinical departments. To be taught by a real discoverer creates a noble enthusiasm in the minds of ambitious students. If the university is to function completely, the university hospital becomes of necessity a part of the medical school. It is here where the full-time scientist and the clinician meet and where the laboratory worker finds the fruition of his efforts.

The university has another important function to perform which it can do successfully if given an opportunity. I have mentioned medical quackery. The university stimulating scientific study, promoting research and creating a sense of science in the minds of the public is now the ultimate remedy. The first step must be the passing of the power of conducting examinations for the practice of medicine over to boards appointed by the university, thus freeing the medical profession from the charge of personal motive; then the universities will be in a position to say to the legislatures that there must be common standards in scientific subjects. We are prepared to set these standards for you. One other thing the universities must do: they must establish special standards of examination for those who are permitted to appear before the public as specialists.

The Medical Program and Its Reactions

A. B. Dinwiddie, New Orleans: By medical program I mean the educational program for the training of men and women for the medical profession. The minimum program consists of two years of academic college work, two years of preclinical work in a school of medicine, and two years of clinical work in a school of medicine. The lack of essential continuity in such a program is clearly shown by the fact that a student without violating any accepted procedure may pursue these three divisions of study in three different institutions. This, in some sections of the country, has resulted in extremely unsatisfactory conditions of preparation.

It is proving difficult to apply a satisfactory principle of selection to determine, among students trained at so many colleges and under such widely differing standards, which shall be admitted to the medical schools. If ultimately the universities train a sufficient number of men to fill their first year medical classes, more than one problem will be solved and continuity of training will be established.

One of the greatest problems of the academic college in the university in connection with preliminary medical education is the difficulty in financing the college of liberal arts. The greatest possible emphasis has been laid on the work of the four years of the medical school, with little or no attention to the substructure, the academic basis. We cannot have satisfactorily trained physicians unless we consider the medical program as a whole and give adequate support to every part of it from beginning to end. A student beginning his six year program at an independent college of liberal arts may be unable to get into any medical school as a result purely of a lack of accommodation, and a student in a two year medical school may find himself unable to complete his medical course because there is no room for him to enter a four year medical school by transfer.

The difficulties of the two-year medical school are becoming acute. The second period of the medical program, namely, that of the preclinical years in the school of medicine, offers perhaps the simplest problem. It is a question of funds, staff and laboratory facilities. The problem of the third or clinical period of the medical program raises questions much more difficult. Medical authorities are not fully agreed on the method of instruction, the character and organization of the staff, and the exact relation of the clinical work to the hospital.

Hospital authorities are not always in agreement with the aims of medical education. Ownership and control of hospitals by medical schools might solve most of these problems, but the enormous cost makes it impossible for most medical schools to reach this solution.

Problems in Medical Education

A. STANLEY MACKENZIE, PH.D., Halifax, N. S.: Frequently it has happened that an enthusiastic and able body of legal, medical or dental men have conceived, gestated and accouched an infant school for the training of men for their profession, and have brought the child to the stage at which they can no longer nourish it, and have then laid it on the doorstep of the university of the community. The pressing appeal to the university to adopt the child which must otherwise perish is usually too strong to be refused. In this way Dalhousie University, founded in 1818 for the purpose of giving a liberal education in arts and science, came by its professional faculties. The explanation of the acquiescence of Dalhousie to such pleas will be obvious when it is stated that Halifax is 800 miles from McGill University in Montreal, which is the nearest large Canadian university.

This explanation has been given in order to lead up to the question confronting Dalhousie in 1911, when it took over the Halifax Medical College, a proprietary school that had been affiliated with the university for many years. The question was what service should a medical school be reasonably expected to give to the local community in which it was located, and to its constituency at large, in addition to the obvious service of imparting as thorough a training as possible to the students whom it prepares for the practice of their profession. The conclusions reached by its authorities, keeping in mind the limited resources at their command, might be thus summarized:

1. To act as a focus of investigation of medical problems, and to give a lead in the formation of public opinion on matters relating to health.
2. To offer to the practicing medical men something in the way of annual "refresher" clinics.
3. To take an active share in the provision of advice and assistance to those citizens of Halifax who were financially unable to pay for proper medical attention.
4. To disseminate knowledge of preventive medicine to the community.
5. To provide opportunities for demonstrating to students the bearing of social and home conditions on health.
6. To inculcate in the coming generation of medical practitioners their responsibility to the people of the community in which they practice for the prevention of ill health and their duty to give freely of their energies in this direction.
7. To provide means through the medical school by which the activities of all agencies engaged in the work of caring for the health of the people might be correlated.
8. To assist the various hospitals in their relations to one another, and to bring the medical school into the necessary close touch and cooperation with all of them.
9. To utilize wherever possible the various medical and allied philanthropic agencies and aid them in avoiding conflicts and duplication of effort.

Perhaps it is too early to speak with assurance of the success of the experiment, but yet there seems no reason why it should fail except for a lack of the spirit of willingness for cooperation among agencies engaged in good work.

(To be continued)

Cancer in Australia.—The mortality rate from cancer in Australia has increased from 26.1 deaths per hundred thousand of mean population in 1870 to 89.1 in 1923. . . . The increase has been very uniform and steady.—Holmes, M, J.: Cancer Mortality in Australia, 1925.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Change of Date of Meeting.—The Medical Association of the State of Alabama has changed the date of its next annual meeting at Mobile to April 27-30.

CALIFORNIA

Smallpox at Los Angeles.—According to newspaper reports, nine new cases of smallpox and one death were reported in Los Angeles, February 21, making the total for cases and deaths for February 255 and forty-nine, respectively.

New Los Angeles General Hospital.—The $8,000,000 Los Angeles Hospital, on which work was recently started, will occupy about 36 acres of ground; the main hospital, for patients acutely ill, will be twelve stories high, and have a capacity of about 1,600 beds; the superintendent of the hospital is Dr. Neal N. Wood.

Illegal Practitioners Fined.—John F. Gebhardt and Frank W Faircloth pleaded guilty, it is reported, to practicing medicine without a license at Fresno, January 21, and were fined $600 each and given suspended sentences of six months in the county jail. The defendants were said to have defrauded a patient of $500 for "eye treatment."

Personal.—Dr. Thomas O. Burger has been elected president of the Mercer Hospital staff of San Diego for the ensuing year.——Dr. Walter F. Mosher has been appointed city health officer of Holtville.——Mr. Norman Cameron, in charge of the Pacific Coast sales of the Cameron Surgical Specialty Company, died of smallpox in Oakland, February 13, aged 27.——Dr. John I. Clark, Santa Ana, has been elected to the board of directors of the Santa Ana Hospital.——Dr. John A. Comstock, for the last five years director of the Southwest Museum, Los Angeles, resigned, effective February 1, in order to resume the practice of medicine.

CONNECTICUT

New Editor Appointed.—Professor emeritus Edward S. Dana, Ph.D., has turned over the *American Journal of Science* to Yale University, which will continue to publish the journal in cooperation with Professor Dana. Yale has appointed Ernest Howe of New Haven editor of the journal for the university. The journal was established in New Haven by Benjamin Silliman in 1818, and for more than a century has been owned by the Silliman and Dana families.

Annual Report of President of Yale.—President James R. Angell of Yale University says in his annual report that almost all branches of Yale are now limiting or are about to limit their enrolment; he believes that the university can better serve the country by keeping the student body within a reasonable size by selecting the strongest student group that can be secured, and then giving those men the best education that intelligence can devise. President Angell condemns that method of education which makes the same demand on all students irrespective of intelligence, and proposes a method by which the varying abilities of men are given fuller recognition. Dr. Angell suggests ways to eliminate the additional year or two now spent in educating the American as contrasted to the European student, and proposes a system of guidance and study that will place men during college and afterward in the work for which their abilities fit them.

DISTRICT OF COLUMBIA

Personal.—Surg. Gen. Edward R. Stitt, who was recently operated on for gangrenous appendicitis, has recovered and returned to his desk at the navy department.——Dr. Victor C. Vaughan gave an address at the Army Medical School, January 29, on "The Typhoid Fever Board of the Spanish War."

ILLINOIS

Smallpox at Evanston.—Eight persons with smallpox in Evanston have exposed many others to the disease while at work; the health commissioner urges that persons who have not been vaccinated within the last five years do so at once.

Personal.—Col. Oscar C. Willhite, U. S. Veterans' Bureau, who has been in charge of the veterans' hospital at Knoxville, Iowa, for two years, has been transferred to the Veterans' Bureau Hospital, Great Lakes Naval Training Station.——Dr. John A. Rusk, Tremont, has been appointed in charge of the Tazewell County Hospital and Home.

Hospital News.—Dr. Arthur J. Fletcher has been reelected president of the staff of St. Elizabeth's Hospital, Danville; Edward J. Wheatley, vice president, and Dr. George T. Cass, secretary.——The Evanston Hospital, Evanston, is building a four story building for living quarters for the nonprofessional staff, which will be known as "Hendry House," in honor of William Hendry, who has been chief engineer at the hospital for twenty-five years.

Chicago

School for Crippled Children.—Chicago will erect another school for crippled children at Fifty-First Street and South Artesian Avenue at a cost of $392,000, which will contain twelve classrooms, twenty special rooms, including clinics, shops and nurses rooms, two gymnasiums and an assembly hall; it will be known as the Walter S. Christopher School, and will receive crippled children from the Henderson School and the Fallon School.

Chicago's Typhoid Record.—Between 1916 and 1923, Chicago each year led the list of cities of 500,000 population or more with minimum low death rates for typhoid. In his weekly bulletin, the city health commissioner states that the Chicago death rate for this disease for 1924 and 1925 was 1.5 per hundred thousand of population; from 1906 to 1910 it was 15.8. The control of typhoid in Chicago has progressed steadily since the World's Columbian Exposition in 1893; since 1916, the department of public works and the city health department have been "eternally vigilant" to safeguard Chicago's water supply. The danger of typhoid is always present in the city; in 1923 there was a localized epidemic in the district supplied by the Sixty-Eighth Street pumping station, and in 1924-1925 an outbreak of 129 cases which was attributed to infected oysters. There were 2,828 persons in 1925 who were given free antityphoid vaccination by the health department, and the number of vaccinations is increasing from year to year.

IOWA

Hospital News.—The Methodist Hospital, Sioux City, has opened a new $500,000 building.——The Iowa Lutheran Hospital, Des Moines, and the Iowa Congregational Hospital have merged; the latter will be maintained as a branch.

Personal.—Dr. Bundy Allen, Iowa City, who has been connected with the University of Iowa for about eleven years, has resigned to accept a position as roentgenologist at a hospital being erected in Tampa, Fla.——Dr. Charles L. Hawk has arrived in Iowa City to become a member of the faculty of the University of Iowa College of Medicine, according to the Iowa City press.

Society News.—The annual clinic of the Middle Section of the American Laryngological, Rhinological and Otological Society was concluded at Iowa City, February 9, when the members were guests of the university at a luncheon in the new first unit of the million dollar building program; 160 members registered, making this the largest section meeting the society ever had.——The Dean Clinical Society met, February 8-9, and was addressed, among others, by Walter A. Jessup, Ph.D., president, University of Iowa, at the Memorial Union Building, Iowa City.

LOUISIANA

Health at New Orleans.—Telegraphic returns to the department of commerce from sixty-nine cities with a total population of 29,000,000, for the week ending February 13, indicate that the highest mortality rate in this group (36.5) was for New Orleans, and that the average mortality rate for the group was 14.8. The death rate in New Orleans for the corresponding week last year was 26.

Influenza Outbreak.—The State Board of Health of Louisiana notes that 357 cases of influenza were reported during the seventh week of 1926, whereas only fifty-six cases were reported during the seventh week of 1925. During the sixth week of 1926 there were 261 cases reported. The state board has issued a bulletin which draws attention to the usual complications of influenza and gives general advice as to the precautions against them.

Society News.—The Louisiana State Medical Society enrolled the largest membership the society ever had in 1925. ——The Rapides Parish Medical Society has passed a resolution to make it a part of its constitution and by-laws that any member guilty of prescribing narcotics illegally, or of selling or giving away his liquor prescription book, or of writing prescriptions for liquor for any purpose except the treatment of disease, shall be expelled from the society.

Hospital News.—More than $500,000 worth of property left by the late Mrs. Alexina Sinclair McBurney to Charity Hospital, New Orleans, was turned over to that institution, January 22.——The proposed hospital in Algiers, a suburb of New Orleans, is to be known as the Behrman Memorial Hospital in memory of the late mayor of the city. The plans for the hospital have been completed; it will have thirty beds, some of which will be for charity patients and others for those able to pay.——The gift of $10,000 to the Touro Infirmary, New Orleans, in memory of the late Emanuel Sternberger of Greensboro, N. C., is being used to enlarge the department of roentgenology, and to install additional equipment; Dr. Walter F. Henderson will continue as director of the department.——A new six story hospital building is soon to be erected for the St. Joseph Sisters in New Orleans, between Apricot, Burdette, Fig and Pine streets.——The Presbyterian Hospital, New Orleans, purchased three pieces of property on Baronne Street as a site for a medical office building.——The Soniat Memorial Hospital, New Orleans, will soon receive bids for the construction of a fifty bed addition on Annunciation Street; this will be the first of three additions to be made to the hospital, with a total expenditure of $1,225,000.

MAINE

Personal.—Dr. George H. Coombs, Augusta, has been placed in charge, temporarily, of the division of communicable diseases of the state department of health.——Dr. Charles E. Williams has been reelected health officer of the city of Auburn.——Governor Brewster nominated, January 20, the following to be medical examiners: Drs. Blinn W. Russell, Lewistown; Charles W. Kinghorn, Kittery; David E. Dolloff, Biddeford.

Maine Leads New England in Tuberculosis Reduction.—Every state in the New England area in 1924 had a tuberculosis death rate lower than the rate for the entire United States. Five years ago the New England death rate for tuberculosis was only 6.4 below the average for the United States, whereas the 1924 death rate was 11.2 below the average for the country. Maine surpassed not only the other New England states in reducing the tuberculosis mortality, but all other states east of the Mississippi River and south of the Great Lakes. The secretary of the New England Conference on Tuberculosis announced, February 11, that the tuberculosis death rate for Maine in 1924 was 68.3 per hundred thousand population. New Hampshire, 74.2; Vermont, 81.4; Connecticut, 81.8; Rhode Island, 84.9; Massachusetts, 86.2, and 90.6 for the country as a whole. The reduction in New England means that about 1,700 lives were saved.

MASSACHUSETTS

Society News.—Dr. Samuel W. Lambert, New York, addressed the Harvard Medical Society, Boston, January 26, at the Peter Bent Brigham Hospital, on "Irregularities of the Heart Action Demonstrated by Motion Pictures of the Heart of the Dog and Turtle."——Prof. Charles Edward A. Winslow, Dr.P.H., Yale University, New Haven, president of the American Public Health Association, spoke on "The Health Department and the Individual" at the annual dinner of the Boston Health League, Hotel Victoria, February 17.——Dr. Horace LoGrasso of the J. N. Adam Memorial Hospital, Perrysburg, New York, addressed the eighth annual meeting of the Trudeau Society of Boston at the Boston Medical Library, February 9, on "Heliotherapy."——Dr. Philip H. Sylvester, Boston, addressed the ninety-fifth meeting of the New England Pediatric Society, February 12, at the Boston Medical Library, on "An Unusual Picture of Primary Blood Disease in an Infant."——The Middlesex East Medical Society recently celebrated its seventy-fifth anniversary at Wakefield.

Miscellaneous Items.—The council of the Massachusetts Medical Society appointed a committee, February 3, to consider all features of the Physicians Home, Inc., and to report at a subsequent meeting; the home requested the state society's cooperation. The council elected Professors William Duane and William I. Bovie, professor and assistant professor of biophysics, Harvard University, respectively, honorary fellows of the society.——Dr. Dean Lewis, professor of surgery, Johns Hopkins University Medical School, Baltimore, addressed the Surgical Section of the Suffolk District Medical Society, Boston, February 24, on "The Operative Care of Surgical Cases," and Dr. John Bryant on "Surgical Convalescents: Medical Aspects."——Dr. John O. Polak, professor of obstetrics, Long Island College Hospital, gave an address at the annual banquet of the Boston Dispensary officials, February 2, on "The Relation of the Outpatient Department to Community Health."—George E. Vincent, Ph.D., president, Rockefeller Foundation, New York, gave the Cutter Lecture on "Preventive Medicine" at the Harvard Medical School, February 11, on "Every Doctor a Health Officer."——At the forty-third annual dinner of the New England Medical Society, Jamaica Plain, January 28, the Sarah Bond Scholarship was awarded to Miss Alice Shepard, a senior at the Women's Medical College of Pennsylvania, Philadelphia.——The New England Health Institute will be held at Concord, N. H., May 24-28.——The William Thompson Sedgwick Memorial Lecture, to which the public was invited, was delivered, February 12, in Huntington Hall, Boston, by Dr. Charles V. Chapin, superintendent of health of Providence, R. I., on "Changes in Type of Contagious Diseases."

MICHIGAN

Migdalski Sentenced.—Dr. John F. Migdalski, Detroit, who was recently convicted in circuit court of attempting to attack a 15 year old girl, was sentenced, February 9, it is reported to from five to ten years in prison. The Michigan State Board of Registration in Medicine revoked Migdalski's license, June 10, 1925, for unprofessional conduct and offenses involving moral turpitude. It was reported about that time that he had been arrested four times within a year.

Results of Cancer Week.—The Wayne County Medical Society's cancer committee has issued a statement of the results of clinics held in Detroit during Cancer Week, January 25-29. At eleven hospitals, 2,345 people were examined for cancer, and forty-seven skin lesions previously unsuspected and untreated as cancer were discovered, most of them in the curable stage; eighteen previously undiscovered cancers of the breast were diagnosed, also sixty-one benign tumors of the breast, and eleven cases were examined which will require a microscopic examination to make a diagnosis. There were nine cancers of the lip discovered and five other cases which require further study, and ten benign tumors of the lip, one positive cancer of the tongue and five doubtful cases which will require microscopic examination. Crowds came to the clinics with various gastric complaints; in view of the difficulty of diagnosis, all of these cases, except five, demanded more study than could be given at the clinics. The hundreds of patients who were examined at the clinics showed that public interest was aroused.

MINNESOTA

Winona's Milk Supply.—The milk distributed in the city of Winona has a higher rating than any other city that has been investigated by the office of milk investigations of the U. S. Public Health Service. Richmond, Va., heretofore, had the highest rating in this respect. The milk ordinance of Winona requires all milk to be pasteurized, all cattle at the dairies to be tuberculin tested, and all employees at pasteurization plants to pass a medical examination; milk delivered to the pasteurization plants must come from properly equipped dairies which use approved methods for producing and handling milk. The ordinance was drafted by the health officer of Winona, Dr. William V. Lindsay, with the assistance of the state department of health.

Free Antitoxin.—There are more than 360 distributing stations in Minnesota where physicians may obtain on request any amount of diphtheria antitoxin needed, the only requirement being a proper report of the use of the antitoxin. Physicians have been able to obtain antitoxin on request since 1909, when fifty-five distributing stations were established. The state's appropriation for free antitoxin has been increased from time to time, until it amounted to $15,000 a year in 1925. The state records show that this method alone will not eradicate diphtheria, although it has reduced the death rate; there were 1,667 deaths from diphtheria in the seven year period 1918-1924. Nearly 37 per cent of these deaths were in children under 5 years of age, nearly 31 per cent were in children from 5 to 9 years of age, and about 13 per cent in children from 10 to 14 years of age. The health authorities propose now to supply toxin-antitoxin free of charge to local health officers, physicians and school boards, in order to immunize the children of the state, especially those in the grade school period.

MONTANA

Personal.—Dr. John C. Dunn, Lewistown, has been appointed health officer of Fergus County.——Dr. John H. Fairfield, Great Falls, has been appointed physician for Cascade County.——Dr. Thomas W. Collinson, Scobey, has been appointed health officer for Daniels County.

Reserve Hospital at Billings.—General Hospital no. 145, U. S. Army Reserve, has been allocated to the state of Montana with headquarters in Billings; St. Vincent's Hospital acting as sponsor. Dr. William R. Morrison, Billings, has been designated commander of the reserve hospital with the rank of colonel; Dr. Ferris L. Arnold, Billings, executive officer, with the rank of major; Dr. William G. Richard, Billings, chief of the medical service, with the rank of lieutenant-colonel, and Dr. James I. Wernham, Billings, chief of the surgical service with the rank of lieutenant-colonel.

NEW HAMPSHIRE

Personal.—Dr. Joseph N. Friborg has been reelected city physician at Manchester.——Dr. Patrick J. Kittredge has been appointed city physician of Portsmouth.

Scarlet Fever Epidemics.—In various parts of the state of New Hampshire there are said to be severe outbreaks of scarlet fever; at Lebanon, three deaths had been reported up to February 8, and all public meetings were forbidden, until February 15. According to the New York *Times*, all persons leaving Lebanon were required to be immunized; a policeman stationed at the railroad station required that persons departing show a health certificate. The school authorities at Phillips Exeter Academy, Exeter, placed a ban on school activities until further notice; some schools also in Somersworth are said to have been closed.

NEW JERSEY

"Practicing" Druggists.—Nathan Kessler and Rennatti Spinelli, druggists of Newark, recently pleaded guilty to a charge of practicing medicine without a license; each one paid the penalty.

Society News.—Dr. Richard A. Kern, associate professor of medicine, University of Pennsylvania School of Medicine, Philadelphia, addressed the Atlantic County Medical Society, February 12, Atlantic City, on "The Diagnosis and Treatment of Hay-Fever." Dr. John T. King, Jr., also addressed the society. Dr. David W. Scanlan was elected president; Dr. Richard Bew, vice president, and Dr. Edward F. Uzzell, secretary.——The Burlington County Medical Society, Mount Holly, unanimously passed a resolution, January 13, that an entirely new county hospital building, accommodating at least 100 patients, is now absolutely necessary to meet the needs of the county; Drs. Richard A. Kern and Charles C. Wolferth, both of Philadelphia, addressed the society on "Medical Management of Duodenal Ulcer: Its Indications and Technic," and "The Recent Progress in the Therapy of Heart Disease," respectively.——Dr. Thomas B. Holloway, professor of ophthalmology, University of Pennsylvania School of Medicine, Philadelphia, addressed the Atlantic County Medical Society, January 8, on "The Orbit from the Standpoint of the General Practitioner," and Dr. Emil Novak, Baltimore, on "Uterine Bleeding."——Dr. Thomas K. Lewis delivered his presidential address before the Camden City Medical Society, recently, on "The Middle Aged Heart"; Dr. Beulah S. Hollinshed, Camden, was elected president of the society for 1926.——Dr. James F. Cooper, director, Clinical Research Department, American Birth Control League, New York, addressed the Morris County Medical Society, Morristown, January 19, on "Birth Control."

NEW MEXICO

Smallpox Outbreak.—There has been an outbreak of eleven cases of smallpox in Roosevelt County; some of the patients are school children, and at least one case developed while the child was at school.

Personal.—Dr. Owen E. Puckett has been appointed full-time officer of Eddy County. Dr. Puckett was formerly health officer for Hope, where he practiced medicine for several years.——Dr. Jesse G. Holmes, Alamogardo, has been appointed county health officer of Otero county.——Dr. Nathaniel D. Frazin, Silver City, has been appointed part-time health officer of Grant County, succeeding Dr. Lucien L. Miner, resigned, who has gone to Los Angeles.

Changes in Regulations.—At a meeting of the state board of public welfare, February 8, regulations were adopted governing the sale of shellfish, and those governing the control of communicable diseases were amended. The board now will recognize state certificates of inspection for shellfish only when each container bears the producer's identification mark, and after it has been informed of the results of an inspection made by the U. S. Public Health Service. The regulations become effective, June 1. Among the amendments made to regulations were that no person with active tuberculosis is permitted to teach or supervise children 12 years old or younger, and persons with trachoma are forbidden to accept employment in homes or institutions where there are minor children. It is no longer required to quarantine persons in contact with influenza, but the influenza patient must be isolated and a placard is required.

NEW YORK

Hospital Burned.—The Kingston City Hospital, Kingston, was destroyed by fire, February 20, at a loss of about $100,000; all of the patients were removed in safety to other hospitals.

State Medical Meeting.—The one hundred and twentieth annual meeting of the Medical Society of the State of New York will be at the Waldorf-Astoria, New York, March 29-April 1, under the presidency of Dr. Nathan B. Van Etten. The annual banquet will be Tuesday evening, March 30, and the annual meeting of the house of delegates, Monday afternoon, March 29. There will be a special demonstration Thursday in charge of leading specialists in New York on syphilis, and they will be in constant attendance to conduct the demonstrations; every phase of the syphilis from the primary ulcer to general paresis will be illustrated by patients, specimens, moving pictures, charts and other ways. Among the speakers at the annual meeting will be Dr. George I. Swetlow, Brooklyn, "Neuron Block for the Relief of Pain with a Report as to Its Use in Angina Pectoris"; Dr. William H. Stewart, New York, "Further Advancement in the Technic and Interpretation of Cholecystography by the Oral Method"; Dr. Harry Aranow, New York, "The Use of the Pomeroy Maneuver in the Treatment of Persistent Occipito-Posterior Position"; Dr. Francis G. Blake, New Haven, Conn., "The Treatment of Scarlet Fever with Scarlatinal Antitoxin"; Dr. Charles A. Elsberg, New York City, "The Diagnosis and Localization of Brain Tumors"; Dr. Edward C. Ellett, Memphis, Tenn., "Some Unusual Effects in the Use of Cycloplegics," and Dr. Richard A. Lawrence, Albany, "The Use of Convalescent Serum in the Treatment of Measles."

New York City

Sixth Harvey Lecture.—Dr. Knud Faber, professor of medicine, University of Copenhagen, will deliver the sixth Harvey Society Lecture at the New York Academy of Medicine, March 13, at 8:30; his subject will be "Historical Lines of Therapy."

Hospital News.—The New York Nursery and Child's Hospital expended more than $150,000 last year in providing free care to mothers and babies of Manhattan; 2,243 babies were born at the hospital during the year; 385 mothers and babies in the neighborhood were attended by physicians sent from the hospital; 685 children were cared for while ill, and 589 wards of the county were boarded in private homes under the hospital's supervision. Dr. Edward H. Peaslee was reelected president of the hospital at the annual meeting, February 9.

Personal.—Dr. Isaac Arthur Stoloff has been appointed associate visiting consultant in surgery at the New York City Children's Hospital, Randalls Island.——Dr. John Oberwager, formerly director of health education, New York City Department of Health, has been advanced to the office of general medical expert.——Dr. Willis C. Noble, Jr., has resigned as bacteriologist in charge of the state health department's branch laboratory at 339 East Twenty-Fifth Street.——Dr. Samuel J. Druskin has been elected president for 1926 of the Eastern Medical Society.——Dr. Karl Landsteiner of the Rockefeller Institute, New York, has been elected a foreign member of the Swedish Medical Association.——Graham Lusk, Ph.D., was guest of honor at a dinner at the Waldorf-Astoria to celebrate his sixtieth birthday, given by friends active in the Russell Sage Foundation and the Cornell University Medical College.——About twenty-five members of the Medical Club of Brooklyn attended a dinner in honor of Dr. Frank E. West, January 18, to celebrate his completion of fifty years in the practice of medicine in New York.

OHIO

New Bureau Chief.—Dr. Benjamin S. Stephenson, Cincinnati, has been appointed chief of the bureau of health education in the state department of health to succeed Dr. Harry E. Kleinschmidt, who has been promoted to chief of the division of child hygiene. Dr. Stephenson was born in Ohio, graduating from Boston University Medical School, 1892, and was for more than six years in Porto Rico connected with the U. S. Public Health Service.

Medical Fellowships Available.—The Committee on Medical Fellowships of Western Reserve Medical School, Cleveland, announces that two full-time research fellowships at $1,500 per annum will be available for the academic year 1926-1927. The period of service is not less than ten months, and promising Fellows may be reappointed a second year for $2,000. The appointments are open to properly qualified persons for research in any department of the medical school. Applications should contain brief statements as to previous research training and degrees, together with the nature and plan of work contemplated and letters of recommendation; they should be addressed to the Committee on Medical Fellowships, 2109-2115 Adelbert Road, Cleveland, before April 5.

OKLAHOMA

Superintendent Appointed.—Dr. David D. Paulus, Oklahoma City, has been appointed superintendent of the Oklahoma City Clinic and Wesley Hospital, to succeed Mr. George D. Hansen, resigned.

Society News.—Dr. Arthur S. Risser, Blackwell, president-elect of the Oklahoma State Medical Association, was the principal speaker at the banquet of the Oklahoma County Medical Association, January 9.——Dr. John M. Alford addressed the Oklahoma County Medical Association, January 23, on "Ectopic Pregnancy," and Dr. Richard C. Lowry on "Lateral Sinus Thrombosis of Otitic Origin."——The Oklahoma County Medical Association announces that it will establish permanent headquarters in the medical library of the new Medical Arts Building, Oklahoma City.

PENNSYLVANIA

Society News.—Dr. Isaac A. Abt, Chicago, delivered a postgraduate lecture before the Allegheny County Medical Society, Pittsburgh, February 9, on "The Present Status of Our Knowledge Concerning the Thymus Gland"; Dr. James R. Johnston, Jr., Pittsburgh, addressed the society, February 15, among others, on "The Value of Posterior Colpotomy in Diagnosis and Treatment."——The Elk County Medical Society has unanimously approved a resolution, protesting against the new state law, which requires the annual registration of legally qualified physicians; it is pointed out that the law is primarily to protect unqualified practitioners, and that the legislature failed to do its duty in not appropriating funds for the enforcement of the act.

Philadelphia

University News.—It was announced, February 20, that Mr. and Mrs. Henry Phipps, New York, had given $500,000 to the University of Pennsylvania to be devoted to the Phipps Institute, which was founded for the treatment of tuberculosis. It was also announced that the children of former provost C. C. Harrison had given $100,000 to the University of Pennsylvania to further the interests of the museum. The Phipps' gift was made on condition that the university raise an equal amount.

Society News.—Dr. Arthur C. Morgan has been elected president for 1926 of the Northern Medical Association of Philadelphia.——The Section of Medical History of the College of Physicians, Philadelphia, conducted a program, February 16, on "Medical Medals"; there was an exhibition of medals from various collections. Among the speakers was Dr. Fielding H. Garrison, Medical Corps, U. S. Army.——Dr. George E. de Schweinitz and Dr. Alexander G. Fewell gave "A Clinical Communication on Tobacco Amblyopia and Diabetes" before the Section on Ophthalmology of the College of Physicians, February 18.

RHODE ISLAND

Violations of Medical Practice Act.—During 1925, the Rhode Island State Board of Health investigated forty-six cases of violation of the medical practice act, fifteen of which were brought to court, and of these, ten cases resulted in convictions; five cases are still pending. Some of the cases, as reported by the board, were as follows:

Dr. Antonio G. Fidanza, 240 Pocasset Avenue, Providence, R. I., not reporting births, fined $10 and costs, Sixth District Court.

Treffie Plant, 92 Cowden Street, Central Falls, abortion, five years state prison, superior court.

Dr. Howard B. Bryer, Natick, not reporting births, fined $10 and costs, Fourth District Court.

Dr. M. J. E. Legris, Phenix, not reporting births, fined $10 and costs, Fourth District Court.

C. S. Altoonian, 121 Charles Street, Providence, illegal practice of medicine, fined $25 and costs, Fifth District Court.

William Brown, Warren, giving false testimony in marriage license, fined $50 and costs, Fifth District Court.

Chester A. Lang, Arctic, illegal practice of medicine, chiropractor, fined $10 and costs, Fourth District Court.

Dr. L. J. Harrop, Arctic, not reporting births, fined $10 and costs, Fourth District Court.

Dr. John W. Saunders, Wyoming, drug addict, report to U. S. district attorney; permission to write narcotics taken away.

Dr. James P. Coll, 532 Broad Street, Providence, unprofessional conduct, license revoked.

Dr. Frank R. Jenks, 532 Broad Street, Providence, unprofessional conduct, case pending on good behavior.

Professor Farnum, 166 Broad Street, Providence, illegal practice of medicine, left state.

TENNESSEE

Society Election.—The Tri-State Medical Society, which met in Memphis recently, elected Dr. Fenton L. Husbands of Blytheville, Ark., president for the ensuing year; Drs. Harris T. Collier, McKenzie, Tenn., Walter C. Overstreet, Jonesboro, Ark., and Tobe M. Riddell, Swifton, Miss., vice presidents, and Dr. Arthur F. Cooper was unanimously reelected secretary.

Personal.—Dr. James G. Eblen was elected mayor of Lenoir City, Dec. 10, 1925.——Dr. Andrew F. Richards, who has practiced in Sparta more than thirty years, has accepted a position in the "federal department of health for the state of Tennessee"; he will move to Nashville.——Dr. Frank L. Roberts has been reappointed head of the Gibson County Health Unit.——Clarence Connell, Nashville, has been appointed superintendent of the new Vanderbilt University Hospital, which was recently opened.

TEXAS

Hotel Hospital.—The Adolphus Hotel, Dallas, at which the general headquarters of the American Medical Association will be during the annual session, April 19-23, has a hospital on the third floor equipped for general medical work, including major surgical operations. It was designed for the convenience of guests at a cost of $10,000. Dr. Marvin P. Stone, Dallas, will be in charge of this hospital during the session.

Clean-Up Campaign.—The state board of health, which annually sponsors a state-wide clean-up campaign, has announced the next one to be March 8-April 3. In each county there will be a contest designated "The Cleanest Town Contest," which will be decided by local committees acting as judges. Towns desiring to enter the contest can obtain from the state board of health literature on insect and rodent control and communicable diseases, and posters in limited numbers.

UTAH

Personal.—Dr. Stephen H. Besley, Salt Lake City, has been appointed state prison physician to succeed Dr. George A. Allen, resigned.——Dr. Willard Christophersen has been reappointed health commissioner of Salt Lake City.

Society News.—The excavation work for the new medical arts building, Salt Lake City, has been completed and construction work is expected to start soon. The building will be ten stories high, and among other things, will include an auditorium and a reference library for the use of professional societies.——Dr. Ralph M. Tandowsky addressed the Salt Lake Medical Society, Salt Lake City, recently, on "Serologic Studies of Proteinurias."

WEST VIRGINIA

Epidemic of Catarrhal Jaundice.—At the January meeting of the Kanawha County Medical Society, Charleston, it developed that practically every physician in the society had treated cases of catarrhal jaundice during the preceding few months; there were four students in one grade in the high school ill at one time. The chairman of the publication committee of the West Virgina State Medical Association says it is estimated that there was a total of more than twenty cases of catarrhal jaundice. It is interesting to note that an outbreak of catarrhal jaundice occurred in Illinois last autumn (THE JOURNAL, Nov. 14, 1925).

GENERAL

Gynecological Society Semicentennial.—The annual meeting of the American Gynecological Society, which will be held this year at Stockbridge, Mass., May 20-22, will be the semicentennial celebration. Among the foreign guests will be Dr. T. Tuffier, Paris, and Dr. J. M. Munroe Kerr, Glasgow; other speakers will be Dr. John Whitrige Williams, Baltimore; Dr. John A. Sampson, Albany, N. Y., and Dr. Robert T. Frank, New York.

Bill to Retire Nurses.—Congressman John M. Morin of Pennsylvania has introduced a bill to provide for the retirement of members of the nurse corps of the army and navy. The bill is similar to one which passed the Senate at the last session, and would place these nurses on the same status as officers of the army and navy, for retirement purposes, with pay. The bill provides that the annual pay of a retired nurse shall be 3 per cent of the active base pay which she is receiving at time of retirement, multiplied by the number of years of service; she would also receive an allowance in accordance with the grade she held at the time of retirement. Legislation of this character has heretofore been approved by the Secretary of War and the Secretary of the Navy.

Report of Foundation.—The second annual report of the Ella Sachs Plotz Foundation for the Advancement of Scientific Investigation shows that fifty-three applications for assistance were received last year, in contrast to thirty-two the year before. During 1925, thirteen new grants were made by the trustees, and one grant of assistance for three years was continued. Four of the investigations assisted in 1925 bore on the general subject of chronic nephritis, as did four of the grants in 1924. Applications for grants for assistance for 1926-1927 should be received before May 15, and include statements as to the character of the research proposed, amount of money requested, and the objects for which it is to be spent. Dr. Francis W. Peabody, Boston City Hospital, Boston, is secretary of the executive committee.

Automobile Fatalities.—New York City reported to the Department of Commerce 1,001 automobile fatalities for 1925; Chicago, 598; Philadelphia, 306; Detroit, 297; Los Angeles, 252; Cleveland, 229. The total number of fatalities in seventy-nine large cities in the United States for the year was 6,370, a daily average of 17.2 for the fifty-three weeks ending January 2. Telegrams from twenty-four cities indicated that 25 per cent of the fatalities in those cities were due to accidents outside the city limits.——Reports of automobile fatalities for the four weeks ending January 30 from seventy-nine large cities showed a total of 434 deaths, as contrasted with 558 for the preceding four weeks. The decrease was probably due, it is said, to the season of the year, as fewer machines are in use in the winter on account of bad weather.

Commonwealth Fund to Construct Rural Hospitals.—An initial appropriation of $350,000 has been made by the Commonwealth Fund, New York, for the construction of two hospitals in rural communities. This marks the beginning of a new project by the fund, which will involve the building of two rural hospitals a year. From among more than fifty applications, Farmville, Va., has been selected as the location of the first of these hospitals, and after March 1, when the fund will establish a division of rural hospitals, it will receive applications from rural communities under certain conditions, the chief of which is that if the application is approved, the fund will contribute two thirds of the cost of construction and equipment of the hospital, while the local community must contribute one third and meet operating and maintenance costs.

Mothers Beyond Thirty-Five.—There were 270,045 women between 35 and 44 years of age who became mothers in 1924 in twenty-eight states, according to the department of commerce. The total number of children ever born to these mothers was 1,708,927, which was an average of 6.7 per mother, and the total number of children living was 1,450,608, or an average of 5.3 per mother. Considering only mothers between 35 and 39 years of age, those who were the wives of coal mine operatives had the highest average number of children (7.4) and the wives of chemists, dentists, physicians, metallurgists, assayers and technical engineers, the lowest average number of children (3.3 each), and the highest number of children living (6) appears for the wives of coal mine operatives, and the lowest average number of living children (2.9) for the wives of dentists and technical engineers. Considering only mothers between 40 and 44 years of age, and only those occupations represented by at least 100 births, the highest average number of children ever born (9.1) appears for the wives of other mine operatives, and the lowest average (4) for the wives of lawyers and judges.

FOREIGN

International Physiology Congress.—It is announced that the twelfth international Congress on Physiology is to convene at Stockholm, Aug. 3-6, 1926. The address of the secretary is Dr. G. Liljestrand, Karolinska Institut, Stockholm, Sweden. Prof. J. E. Johansson is to preside at the meeting.

Leprosy in Japan.—The census of lepers in Japan, recently made by the department of home affairs, showed that the number was 16,261, of whom 11,669 were males and 4,592 females; about 10,000 of them had no means for medical treatment. The government has therefore started a ten year program to enlarge the five prefectural hospitals, which now have a total capacity of 2,080 beds. The appropriation for this work for 1926 amounts to more than 650,000 yen.

Personal.—Dr. Lewis W. Hackett, representative in Italy of the International Health Board of the Rockefeller Foundation, has transferred his office to Palazzetto della Farnesina, 168, Corso Vittorio Emanuele, Rome, Italy.——Prof. R. Bing, Basel, has been invited to lecture on neuropathology at the Liége medical school in March.——A medal was recently presented by a group of friends to Prof. Gaudier, Paris, who is said to have been the pioneer in immediate suture of war wounds.

Deaths in Other Countries

Dr. **James Israel**, surgeon in chief to the Jewish Hospital at Berlin, aged 78. In the last thirty years he specialized in surgery of the kidneys.——Dr. **A. Juramie**, in Algiers, a victim of typhus acquired in professional work.——Dr. **H. J. Vetlësen**, Oslo, a frequent contributor to the literature on internal medicine, aged 74.——Dr. **A. Moussoux**, professor of pediatrics at Bordeaux.——Dr. **J. Fränkel**, Berlin, chief of the orthopedic department in the university surgical clinic (Bier), succumbed to embolism from phlebitis, aged 45.——Dr. **H. Schuster**, Arad, Hungary, aged 73, prominent in hygiene, sanitation, and abdominal surgery.

Government Services

Veterans' Bureau Resignations

The U. S. Veterans' Bureau *Medical Bulletin* for February announces the resignations of the following physicians at the hospitals indicated:

Dr. William M. Bevis, Perry Point, Md., Oct. 31, 1925.
Dr. George C. Jones, Aspinwall, Pa., Nov. 17, 1925.
Dr. Peter S. Mallon, Knoxville, Iowa, Nov. 10, 1925.
Dr. Archie McCallister, Oteen, N. C., Nov. 16, 1925.
Dr. Harold J. Mixson, Algiers, La., Nov. 16, 1925.
Dr. Harry Olin, Jefferson Barracks, Mo., Oct. 25, 1925.
Dr. William L. Orr, Alexandria, La., Nov. 9, 1925.
Dr. George S. Pitcher, Augusta, Ga., Nov. 30, 1925.
Dr. Lewis E. Scharf, Edward Hines Junior Hospital, Oct. 12, 1925.
Dr. Thomas A. Wayland, Aspinwall, Pa., Oct. 19, 1925.
Dr. William F. Willien, Legion, Texas, Sept. 27, 1925.

Army Medical School Graduation

Graduating exercises for the army medical school, army veterinary school and army dental school were held, February 10, at the Army Medical Center, Washington, D. C. Among the speakers were Surg. Gen. Merritte W. Ireland and Major Gen. John L. Hines, chief of staff, who presented the diplomas and medals. There were thirty-six graduates in the medical school. Capt. Frank P. Strome was awarded the Hoff medal and Lieut. William F. De Witt, the Sternberg medal. There were thirteen graduates in the veterinary school and seven in the dental school.

Examination for U. S. Public Health Service

Candidates will be examined for entrance into the regular corps of the U. S. Public Health Service, March 15, at Washington, D. C., Chicago, New Orleans and San Francisco. Requests for permission to take the examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C. Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, with one year of hospital experience or two years in practice. Candidates who pass an oral, written, clinical and physical examination will be recommended for appointment by the president.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Jan. 30, 1926.

The Case of Dr. Axham

The action of the general medical council in removing physicians from the medical register is often the subject of criticism in the lay press; but nothing comparable to the campaign for the restoration of Dr. Axham to the register has occurred before. Some years ago the council, becoming aware that the public was being misled by certain qualified physicians who delegated to unqualified employees the treatment of patients, issued a warning notice to the effect that a legally qualified physician who, by his presence, countenance, advice, assistance or cooperation, should enable an unqualified person to carry on practice as if he were qualified and registered, was liable to incur the penalty of erasure from the register. It was found that Dr. Axham was in the habit of administering anesthetics for the bonesetter Mr. Barker. He was summoned before the council and not only admitted the practice but said that he was not prepared to discontinue it. In 1911, accordingly, his name was erased from the register. Probably nothing more would have been heard of the case but for one thing. After the war the government (in other words, the politicians in control) recommended Mr. Barker for the honor of knighthood, which was conferred on him. This put an unanswerable argument into the hands of Dr. Axham's friends. They argued that not only was Mr. Barker's work justified but also Dr. Axham's, and that he was a public benefactor in enabling it to be performed without pain. Then began a campaign of unmeasured denunciation of the council, which the whole lay press pursued with vigor. Even the *Times* followed suit and put the matter moderately as follows: "Dr. Axham, of course, has no case at all. He broke a rule and has paid the penalty. The public, however, is not concerned with the professional point of view. It feels, whether rightly or wrongly, that it has an absolute right to the benefit of any knowledge which may be available, no matter by whom this knowledge has been won. In this respect it does not discriminate between Sir Herbert Barker, for instance, and the president of the general medical council himself. It is convinced, and the evidence is sufficient to justify such conviction, that Sir Herbert Barker has added to the means available for the relief of human suffering. It honors him, therefore, and, with him, those who have assisted his work. Further, it takes the view that such service to humanity outweighs any offense against professional rules which may have been committed." Dr. Axham is now an old man of 86, in poor health, and he has retired from practice. He therefore has no use for a medical qualification but, for the sake of his family, he asked for the removal of a stigma. Even in the medical profession there was a strong feeling that he had been sufficiently punished. The *Lancet* regarded the case as one for clemency. An appeal was made to the medical council, which declared that it could do nothing until one of Dr. Axham's diplomas had been restored to him by one of the two bodies from which he had received them. The case then came before the council of the Royal College of Surgeons, which refused to rescind its resolution of 1911, removing him from membership. But the Royal College of Physicians, Edinburgh, by a majority, resolved "on proof submitted that the said Frederick William Axham has abstained for the last five years from the practices which led to his suspension and will not resume them, and that the said suspension be removed as from this date." The effect of this resolution will be that Dr. Axham can now apply to the general medical council to have his name replaced on the register, which will probably be done. The decision of the Edinburgh College has been received with a chorus of press approval, but the *Times* regrets that they did not perform "the act of grace" just a little more gracefully. Among the approvals of public men, Bernard Shaw has the following characteristic effusion: "It will put the general medical council in a pretty fix. The only consolation they will have is that on the whole it will rather damage Dr. Axham than anything else; it is getting now so disgraceful to be a registered medical man, and the unregistered men make so much more money. Still, since Dr. Axham apparently wants the diploma back, he has my hearty congratulations."

The Treatment and Spread of Kala-Azar

At the annual conference of medical research workers, recently held at the Calcutta School of Tropical Medicine, it was shown that more progress in combating kala-azar (dumdum fever) in India has been made during the last eighteen months than in the previous twenty years. The treatment has been improved enormously by the use of pentavalent antimony compounds, and the course of treatment can now be reduced to about four weeks, in place of three months. Even more important are discoveries connected with the problem of how kala-azar spreads from man to man. The question that has defied the efforts of many workers for more than twenty years has now been virtually solved. Major Acton of the Calcutta School of Tropical Medicine was the first to draw attention to the close connection between sandflies and oriental sore, the latter being a disease due to a parasite and very similar to kala-azar. Subsequently it was shown that there is a very close relation between the spread of kala-azar and the prevalence of the rural "silver-footed" sandfly, and investigations along these lines have made it appear exceedingly probable that this sandfly, *Phlebotomus argentipes*, is the insect vector of kala-azar from man to man in India.

Arsenic in American Apples.

The contamination of apples imported into this country from America has been reported in a previous letter. Attention was first drawn to this danger by sickness in North London. The local health officer submitted samples of apples bought in the borough of Hampstead to the public analyst, and these were found to contain on the skin 40 parts per million of arsenic with 110 parts of lead. This was due to the spraying of the apples with lead arsenate. The public analyst's report states that a person eating one of these apples, of an average weight of a quarter of a pound, would thereby take a dose of about one-fifteenth grain (4 mg.) of lead arsenate. As a result, the ministry of health issued a warning to local authorities in all parts of the country. Further experiments have proved that the contamination cannot be removed by rain or by washing. It is evident that the metal combines with the proteins of the skin to some extent. The report concludes that it is satisfactory to note that the arsenical contamination has been found to be entirely confined to American apples.

In response to an inquiry from London as to arsenic on apple skins, the United States Department of Agriculture telegraphed from Washington to the Fruit Trades Federation: "Approximately 65 per cent of the commercial apple crop, or about 68,000,000 bushels, has already been consumed in the United States. Only 10 per cent has been exported. No cases of sickness whatever have occurred here." Mr. Edwin Smith, a fruit specialist from the United States Department of Agriculture, who is now investigating the matter in Great Britain, said: "The total apple consumption in the United States this year is put at 164,616,000 bushels. Of this, 95,727,000 bushels is the commercial or marketable crop. For the last thirty years the size of the apple crop has not changed greatly, and during this time all commercial apple districts have used the same general character of spray control in combating the codling moth. It is estimated that during this time no fewer than 900,000,000 barrels of apples thus produced have been eaten. We have no record whatever of serious illness from this source throughout the whole thirty years"

Leprosy in the Empire

A meeting of the general committee of the British Empire Leprosy Relief Association was held at the India office when the first annual report was adopted. Lord Chelmsford, chairman of the general committee, said that the appeal that was launched at the Mansion House two years ago was a lamentable failure, the cause in the main being financial stringency. One argument used was that, as the appeal was made on behalf of the empire, and as the majority of the lepers were to be found in India, the appeal ought to be made to India in the first place, and when they had got the support of the Indian governments they could seek the support of the people at home. They had followed that advice. The response in India was amazingly good. They had received something like $725,000. As the original appeal was for $1,250,000, and they had received over $750,000 in India and at home, they were now going forward with a renewed appeal for the remaining $500,000. Sir Leonard Rogers said that important work was accomplished last year. The medical committee had adopted a definite policy with regard to different parts of the empire, which had been approved by the colonial office, and a memorandum outlining this policy had been distributed.

The Treatment of Leprosy

The report of the British Empire Leprosy Relief Association for 1925 states that leprosy was formerly regarded as incurable, but recent researches have led to the discovery of methods of treatment which, if given at a sufficiently early stage, cause the disappearance of all signs of the disease. It is now certain that leprosy can be eradicated from any country where adequate arrangements are made for the proper treatment of all persons contracting the disease. Sir Leonard Rogers, medical secretary of the association, describes the present position as follows: Although when taken in its early stages one could cause the disappearance of all signs of the disease, it was impossible to say whether the bacillus had been completely eradicated from the system. The new cure was also a long one, as it would take a year or more and was only a modification of the older method. Dr. E. Muir of the Calcutta School of Tropical Medicine had made a further important practical advance in the treatment. Ethyl esters, obtained from the oil from the ripe seeds of the southern Indian tree *Hydnocarpus wightiana,* were used for the treatment, but Dr. Muir found that the pure oil from the ripe seeds of the tree was as efficacious, and it was therefore possible to obtain the treatment at one-tenth the cost, and great quantities of the seeds were being sent out by the association. Research is still going on, and great things are expected from the combination of these compounds with certain metals. One of the most important developments is gradual conversion of the old leper asylums into sanatoriums for the treatment of early cases. Contrary to the general belief, leprosy is not very infectious, and under good sanitary and climatic conditions infection is practically unknown. The realization that early stages of the disease can be cured has brought far more patients to be treated, as formerly they never came until the disease had run its course for about five years. On the lowest computation there are 300,000 lepers in India and other British possessions, and the real number is probably far greater. Favorable reports continue to be received of the beneficial results of the new treatment.

PARIS

(From Our Regular Correspondent)

Feb. 1, 1926.

The Prophylaxis of Leprosy

Following the communication presented to the Academy of Medicine by Jeanselme, the Commission de la lèpre edited the following conclusions, which the academy adopted after discussion:

1. Leprosy should be included in the list of notifiable diseases. The attention of the minister of public health should be directed to the importance of requiring the observation of the maritime sanitary police regulation to the effect that the colonial administration advise the sanitary authorities of the cities of the future residence of leprous persons.

2. Leprous persons living at home, and also persons of their entourage, should be subjected at short intervals to clinical and bacteriologic examinations by a competent physician appointed by the departmental inspector of public health and instructed by the latter to specify in his report the prophylactic measures indicated in each particular case.

3. Leprous persons should be prohibited from following certain trades or occupations; more particularly, those of baker, butcher, cook, laundryman, tailor, barber, cab driver, domestic, teacher, physician, pharmacist, midwife and nurse.

4. At certain points, preferably in the vicinity of dermatologic clinics (at universities or otherwise), centers should be established for the concentration and treatment of lepers, irrespective of their social condition.

5. An agreement should be entered into with the countries having many lepers, with a view to preventing leprous persons from emigrating to France.

Antituberculosis Crusade in the Prefecture of the Seine

From the report presented last November by M. Armand Guillon to the Congress of Associations of Social Hygiene, I have taken the following figures, which give an idea of the activities of the Office d'hygiène sociale, of which Guillon is the director for the prefecture of the Seine:

In the forty-two public dispensaries of Paris and the Seine district, 50,692 persons have been enrolled. A diagnosis of tuberculosis was reached in 28,916 cases (18,699 adults, among whom were 8,346 with tubercle bacilli, and 10,217 children, 168 of whom presented tubercle bacilli). There were more than 50,000 persons to be followed up and supervised; more than 30,000 were recognized as infected. More than 9,000 persons were recognized as being in an infective state, who, for months and sometimes for years, may spread the disease in their entourage. Therefore they must be hospitalized or put in a sanatorium; must be educated and instructed in measures of prophylaxis that will prevent them from endangering others, and must be kept separated from children. That, M. Guillon stated, was the task that had been accomplished. From a report issued recently by the Comité national de défense contre la tuberculose, he quoted the statement that the annual tuberculosis mortality rate for Paris before the war was 33.9 per 10,000 inhabitants, but that in recent years it had dropped to 23.6. These figures furnish unquestionable evidence of the excellent results accomplished by the antituberculosis campaign in recent years.

The Immigration of Alien Insane

M. Marie recently communicated to the Société de médecine of Paris statistics on the number and character of foreign psychopaths admitted to the Asile clinique. During eighteen months, almost a thousand foreign psychopaths, belonging to thirty-two different nationalities and coming from all parts of the world, have been interned in Paris. The majority of these are unable to express themselves in French. It is evident that they were mentally abnormal when they left their native country. On reaching France, they immediately become public charges—for the most part, permanently. At 20 francs a day (the present tariff rate at Sainte-Anne Hospital), 20,000 francs daily is thus added to the burden of the taxpayers. The average age of these patients is 27 and their life expectancy is around thirty years. The total cost of supporting these thousand men for thirty years would be enormous.

M. Remlinger reported to the academy, November 30, the immigration of large numbers of physically infirm, who also become a burden to the Assistance publique and, in addition, introduce new diseases into France (leprosy, filariasis, trachoma, encephalitis and myelitis). The increasing number of mentally and physically unfit immigrants requires stricter prophylactic measures and greater circumspection in eliminating undesirables at points of entry. Measures similar to those employed in the United States seem imperative. The scientific and medical societies of France should adopt resolutions looking toward the passage of the required legislation.

The Rockefeller Mission and French Efforts to Combat Tuberculosis

Dr. A. Bruno has recently communicated to the Faculté de médecine of Paris a book in which he gives an account of the work of the Rockefeller Mission. The country derived great benefit during the five years in which the Rockefeller Mission was active in France. As Dr. Bruno was attached to the mission from the outset, he could sum up the benefits derived by France from the American movement, as it was carried out in collaboration with the French societies. The Rockefeller Mission recognized the lack of coordination between the existing societies, and its first effort was to establish an organization in which the antituberculosis dispensary played the principal part. It gave financial support to the newly created dispensaries and appointed a personnel composed of physicians and visiting nurses who had been trained for the medicosocial work that lay before them. The French learned from the mission to utilize the card index system for medical and social records, to render monthly reports, and to apply the budget plan to dispensary administration. They learned also the American method of bringing propaganda before the masses, not only in the urban centers but also in the most remote sections of the country. When the Rockefeller Mission closed its work in France, it turned over the succession to the Comité national de défense contre la tuberculose. The book by Dr. Bruno has reminded us of the debt of gratitude that France owes to the Rockefeller Mission. It is proper to call these events to mind at this time, when the results of the happy collaboration are beginning to bear their fruit.

GENEVA

(From Our Regular Correspondent)

Feb. 5, 1926.

Bronchiectasis

The Revilloid-Julliard lecture was delivered to the Geneva Medical Society, Dec. 3, 1925, by Prof. Emile Sergent of Paris, who spoke on the subject of "The Diagnosis and Treatment of Bronchiectasis." The following abstract is from the as yet unpublished manuscript of the lecture:

The lipiodol radiodiagnostic method makes possible the diagnosis of bronchiectasis, as Sergent showed by numerous roentgenograms. The technic is as follows: After local anesthesia with procaine injected in the cricothyroid space, the needle is left in situ and from 30 to 40 cc. of lipiodol is injected. The patient should lie in such a position that the lipiodol tends to reach the suspected area in the lung. During the injection the subject breathes deeply in order to aspirate the solution, and if the anesthesia has been properly done there is little tendency to cough. The roentgenogram should be taken immediately after the injection. The clinical diagnosis of bronchiectasis is occasionally difficult because of complications and because none of the symptoms or signs are distinctive. After discussing the various types of bronchiectasis as revealed by lipiodol radiodiagnosis, Sergent referred to mistaken interpretation of the roentgenogram. A clinical examination may suggest bronchiectasis and the lipiodol radio method reveal normal bronchi. If one is not sufficiently skilled, one may conclude that there is no bronchial dilatation. But examination should be repeated a few days later. The amount of lipiodol injected should not be more than 40 cc. Since this amount is not sufficient to fill the bronchial tree, it is possible that the lipiodol does not penetrate the area of bronchiectasis. The reason for this may be that the patient was not in a suitable position, that the lipiodol was not sufficiently aspirated or that a collection of pus or a stenosis prevented the solution from entering the affected bronchi. Examination after evacuation of the pus and with the other conditions properly adjusted may give the characteristic images of bronchiectasis. If the images obtained are still *negative, bronchiectasis does not exist.*

On the other hand, abnormal bronchial images may be mistaken for bronchiectasis when it does not exist. The cylindric, "pigeon's nest" and "basin-shaped" images of dilated bronchi are those most liable to cause errors of interpretation. However, bronchi containing lipiodol may appear enlarged and distended when they are near the thoracic wall over which the roentgen-ray film was placed, and may offer a normal aspect when the film is placed over the opposite thoracic wall. The caliber of the bronchi, without consideration of other factors, has no pathologic significance. Not only are dilated bronchi enlarged: their outline is less regular and more sinuous than normal; their arrangement is changed, the bronchi being compressed in a conglomerate mass. The last remark is important, because in chronic bronchopathies and pneumopathies accompanied by sclerosis the roentgenogram reveals disordered topography of the bronchial arborizations. The same condition is met at the periphery of certain encysted collections. It must be considered, also, in the differential diagnosis between the cavities occurring in pulmonary abscess and encysted pleurisy and the false cavities of bronchiectasis.

Medical treatment—stock vaccines and autovaccines—has not been successful. In appropriate cases, however, antisyphilitic treatment may be successful if begun early. Surgical treatment offers five procedures: artificial pneumothorax, extrapleural compression and thoracoplasty, lobectomy, pneumotomy and phrenicectomy. Artificial pneumothorax is powerless to produce collapse of the dilated bronchi, excepting in very recent cases of bronchiectasis, before dense pulmonary sclerosis has developed. Extrapleural compression may be indicated when the bronchiectasis exists in one lobe only, while extrapleural thoracoplasty deals with lesions occupying the entire lung. Pneumotomy is dangerous and is indicated only in cases with large pus pockets. Later this procedure must be completed by extrapleural compression, extrapleural thoracoplasty or lobectomy, an operation advised by some when the lesions are limited to one lobe. But lobectomy is dangerous and technically difficult. It has so far given a mortality of from 40 to 50 per cent, while in those patients who survive, only 7 per cent are completely cured and about 7 per cent greatly improved. It can be considered only in the cases of young and resistant subjects. Phrenicectomy is safe and effective and is likely to be used extensively in the future. Its object is to produce passive retraction of the lung. Like extrapleural thoracoplasty, phrenicectomy is indicated in the presence of the retractile sclerosis which plays an important part in bronchiectasis. In phrenicectomy the base of the lung is compressed by ascent of the paralyzed diaphragm and abdominal viscera, but the operation is indicated only when the lesions are in the pulmonary base.

Except in very favorable cases, the ascent of the diaphragm may not be marked. Still, the expectoration decreases and if the temperature was raised it drops to normal. In favorable cases, phrenicectomy will effect a cure; otherwise it may only be preparatory to other measures.

BERLIN

(From Our Regular Correspondent)

Jan. 9, 1926.

Interruption of Pregnancy from Eugenic Indications

In the auditorium of the Langenbeck-Virchow-Haus, recently, Dr. Max Hirsch, gynecologist of Berlin, championed the interruption of pregnancy not only for medical but also for eugenic reasons, whereas Prof. Dr. Kahl, jurist, rejected eugenic indications. A general discussion followed the somewhat heated remarks of the opposing speakers.

According to the present penal code, interruption of pregnancy to save the life of the mother is still in the class with criminal abortion, although, as a rule, the courts do not interfere unless it is a borderline case. About fifty years ago, when the present penal code was written, famous physicians had only one induced abortion out of 25,000, or even 100,000, births. With the advance of science, there were more cases of interrupted pregnancy when the life of the mother was endangered. But abortion in Germany is still, from the legal standpoint, an "intentional bodily injury." Dr. Hirsch originally held the view that the physician needed no direct legal protection for his intervention; that he was best protected by a careful inquiry into the case and by transferring the operation from the secrecy of the private home to the publicity of a clinic. But he now considers that, while induced abortion is a form of therapeutic treatment, it violates the legal rights of the unborn child. He demands therefore the legalization of interruption of pregnancy for medical reasons, by the penal code. The law should, he thinks, include eugenic indications. In the opinion of Hirsch, the present beliefs with reference to hereditary transmission of disease would bring the following affections under eugenic indications: retinitis pigmentosa, amaurotic idiocy, dementia praecox, manic-depressive insanity, Huntington's chorea and essential epilepsy.

Before deciding on an interruption of pregnancy for eugenic reasons, consultation with a specialist in the respective field of medicine should be required. Hirsch advises the insertion of the following provision in the penal code: "The interruption of pregnancy shall be exempt from punishment provided it is performed by a physician in accordance with the teachings of medical science."

Hirsch's views were opposed by Geheimrat Kahl: Physicians are not agreed as to whether or not offspring of manic-depressive parents may be absolutely healthy. Induced abortion from eugenic indications should not be permitted because such a right would amount to organization for the destruction of human life, which lies outside the province of a modern civilized state. Kahl denies the right of the state to destroy worthless life, even though such act might accrue to the benefit of the people as a whole; nor has the state the right to give to any profession permission to destroy human life the fate of which is entirely uncertain. Legislators are not under obligation to take note of the latest results of medical progress in preparing the nation's laws; then, too, eugenics as a science is not based as yet on firmly established findings. Kahl closed his address, which was well received, with the words: "It may be that my ideas are not abreast of the times, but I must follow my scientific convictions and my juristic conscience. I therefore utter this general appeal: Have more respect for the sacredness of motherhood!"

In the general discussion that followed the addresses, in which hygienists, gynecologists, jurists and devotees of hereditary science took part, most of the speakers betrayed a leaning toward the attitude of Geheimrat Kahl. It was generally agreed, however, that definite provisions should be enacted with reference to purely medical indications, and that it would be an advantage to the medical profession to have sharp control exercised. If eugenic indications should be recognized to a limited extent, the necessary measures to prevent abuse should be adopted. Professor Baur expressed the opinion that of all eugenic measures the interruption of pregnancy was the least to be recommended.

Neurosis in Relation to Natural Endowments

At the Congress on the Psychology of the Individual, recently held in Berlin, Alfred Adler, psychanalyst of Vienna, gave an address on "Neurosis in Relation to Endowments." In his researches on neurosis, Adler was originally a pupil of Freud, to whom he is indebted for many of his fundamental ideas. When, however, Freud went over entirely to sexual symbolism, Adler went his own way. For Adler the central influence in neurosis is the feeling of inferiority. The origin of that attitude goes back to the period between the third and the fifth year, in which the developing ego first forms its scheme of categories into which it fits, as they arise, the manifestations of human existence. The influence of this earliest substratum of life's experience is so lasting that the individual is able to derive little benefit from the experiences of later life. As a rule, there is reflected in the content of the earliest recollections the tendency that later, when fully developed, led to the neurosis. The person who is a victim of the inferiority complex thinks that he is incapable of coping with the difficulties of normal life. As a consequence, he subconsciously decides to have recourse to a neurosis, sickness, invalidism, in order to avoid the tasks of a definite calling or occupation, social obligations, and the duty of raising a family. In the face of such tasks and duties he shirks all responsibility. On the other hand, he asserts a certain active domination over his entourage, who think of him as being "ill" and entitled to special consideration. While the goal of the normal person is to perform some useful task, to accomplish something worth while, the aim of the neurotic seems to be to assert his superiority over others; and, it may be added, superiority gained by illegitimate means, a surreptitiously acquired superiority. According to Adler, about 98 per cent of the inhabitants of civilized countries today show some neurotic traits. Manifestations of the inferiority complex alone, without the pathologic endeavor to assert one's superiority, never constitute true neurosis, Adler emphasizes. The recited interpretation of the nervous type of character gives rise to important considerations for the school and the home. The modern tendency in civilized countries to preserve and uplift the weak and the tender (the baby is today the master of the household; everybody else has to give way) is associated with certain dangers. The educator should make it clear to the child that it cannot escape responsibilities. His second task is to plant in the child's mind a faith in himself and in his destiny. Adler holds the view that in our educational system differences in endowments are allowed to play too big a part, and he condemns the practice of holding up the phenomenal performances of the few great individuals as the standard for all. He fears that it discourages more than it helps. In the precept "it is more blessed to give than to receive" Adler sees the summit of psychotherapeutic wisdom, if it is interpreted in the proper intellectual, or spiritual, sense. The highest goal of the educator should be to develop the giving spirit in man. With this view of life, even those with limited endowments can give to human existence a high personal value.

Marriages

Albert J. Hodgson, Waukesha, Wis., to Miss Flora Christensen of Minnesota, at Jupiter, Fla., in November, 1925.

John A. Johnston to Miss Rosemary Kernan, both of Quebec, Que., Canada, at Baltimore, February 10.

Ernest Emile Allgeyer, New Orleans, to Mrs. Marion Gustine Clark of Chicago, February 10.

Thomas F. Loughlin, Hartford, Wis., to Miss Meta Bahde of Green Bay, Nov. 24, 1925.

Ernest Springer, Boston, to Miss Elsa Anna Cohen of Brookline, January 5.

Deaths

Irvin Hardy ⊕ Morgantown, W. Va.; Maryland Medical College, Baltimore, 1899; College of Physicians and Surgeons, Baltimore, 1903; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1909; professor of principles and practice of surgery and formerly instructor in minor surgery and clinical professor of surgery, West Virginia University School of Medicine, Morgantown; surgeon in charge, Allegheny Heights Hospital, Davis, 1904-1914, and the City Hospital, 1914-1925; aged 52; died, February 3, at the Western Pennsylvania Hospital, Pittsburgh, of heart disease.

Henry Joseph Perry ⊕ Boston; Medical School of Harvard University, Boston, 1896; associate professor of dermatology, Tufts College Medical School, Boston, and formerly assistant in bacteriology at his alma mater and the Massachusetts College of Pharmacy; member of the American Urological Association and president of the New England Dermatological Society; at one time member of the school board; on the staff of Evangeline Booth Hospital; aged 55; died, February 4, at Needham.

George Burbank Somers ⊕ San Francisco; Cooper Medical College, San Francisco, 1888; formerly adjunct professor of gynecology, and professor of gynecology at his alma mater; clinical professor of gynecology at Stanford University Medical School, since 1911; chief surgeon, San Francisco Emergency Hospital, 1891-1895; superintendent of the Lane and Stanford University hospitals; aged 63; died, February 21, of epidemic encephalitis.

Donly Curtis Hawley ⊕ Burlington, Vt.; University of Vermont College of Medicine, Burlington, 1884; trustee at his alma mater; member of the American Proctologic Society; mayor of Burlington, 1901-1902; formerly member of the state legislature; president of the American Academy of Medicine, 1905-1906; on the staffs of the Fanny Allen, Mary Fletcher and De Goesbriand hospitals; aged 70; died, January 27, at Daytona, Fla.

Joseph O. Stillson ⊕ Indianapolis; Miami Medical College, Cincinnati, 1873; formerly professor of ophthalmology and otolaryngology, Central College of Physicians and Surgeons, Indianapolis; member of the Indiana Academy of Ophthalmology and Oto-Laryngology; at one time member of the board of health; on the staff of the Indianapolis City Hospital: aged 75; died, January 28, at the Methodist Hospital, of lobar pneumonia.

Manly J. Sandborn ⊕ Appleton, Wis.; Northwestern University Medical School, Chicago, 1896; member of the Chicago Roentgen Society and president of the Radiological Society of North America; chairman of the city board of health; on the staff and director of the roentgen-ray department of St. Elizabeth's Hospital; aged 56; died, February 21, at a local hospital, following an appendectomy.

David Clark, Springfield, Mass.; University of Pennsylvania School of Medicine, Philadelphia, 1869; member of the Massachusetts Medical Society; Civil War veteran; for many years and at the time of his death was a member of the board of managers of the Wesson Maternity Hospital; aged 82; died, January 29, of heart disease.

Amos Clark Walker, Fort Worth, Texas; Bellevue Hospital Medical College, New York, 1873; formerly emeritus professor of clinical surgery, Fort Worth School of Medicine, Medical Department of Texas Christian University, Fort Worth; at one time on the staff of the Protestant Sanitarium; aged 74; died, January 13.

James Walker, Mendenhall, Pa.; Jefferson Medical College of Philadelphia, 1892; member of the Medical Society of the State of Pennsylvania; formerly on the staffs of the Delaware and St. Michael's hospitals, Wilmington, Del.; aged 58; died, January 7, following an operation.

James Morgan Taylor, Glasgow, Ky.; University of Louisville School of Medicine, 1878; past president and secretary of the Barren County Medical Society; for several years county health officer; aged 77; died, Dec. 11, 1925, in Louisville, of senility.

Harry Barr Snavely, Lancaster, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1888; formerly a druggist; at one time on the staff of the Lancaster General Hospital; aged 61; died suddenly, January 29, of heart disease.

Anthony Krygowski ⊕ Chicago; Chicago Homeopathic Medical College, 1894; Harvey Medical College, Chicago, 1896; Hahnemann Medical College and Hospital, Chicago, 1905; aged 56; died, February 6, of myocarditis, diabetes and nephritis.

John Livingston Burisch ⊕ Worcester, Mass.; Medical School of Harvard University, Boston, 1923; formerly on the staff of the Fairlawn Hospital; aged 28; died, January 13, at the Worcester City Hospital, of cerebral hemorrhage.

Giovanni Mecchella, Brooklyn; University of Naples, Italy, 1898; member of the Medical Society of the State of New York; aged 52; died in November, 1925, of bronchopneumonia and influenza.

James Washington Gilbert, *Verona, Miss.; Bellevue Hospital Medical College, New York, 1870; Confederate veteran; for several years health officer of Lee County; aged 80; died, January 19.*

Eliot Callender Du Mars, Los Angeles; Washington University Medical School, St. Louis, 1906; formerly a practitioner in Illinois; aged 42; died, Dec. 30, 1925, of tuberculosis.

James Elbert Pennington, Miami, Fla.; Atlantic College of Physicians and Surgeons, 1901; served during the World War; formerly mayor of Wellborn; aged 49; died, January 30.

Benjamin Rel Van Doozer, Santa Barbara, Calif.; Chicago Medical College, 1868; formerly a practitioner in Chicago; aged 82; died, Dec. 29, 1925, at Oakland, of bronchopneumonia.

Agnes Hancock Hertzler Huebert ⊕ Halstead, Kan.; University of Kansas School of Medicine, Rosedale, 1920; on the staff of the Halstead Hospital; aged 30; died, Nov. 27, 1925.

Edwin Barclay Miller, Altoona, Pa.; Jefferson Medical College of Philadelphia, 1906; member of the Medical Society of the State of Pennsylvania; aged 42; died, Nov. 15, 1925.

Eli James Barrick, Toronto, Ont., Canada; Victoria University Medical Department, 1866; L.R.C.P., London, 1866; M.R.C.S., England, 1867; aged 87; died, Dec. 17, 1925.

Joseph Ariel Stolze, Wausau, Wis.; University of Pennsylvania School of Medicine, Philadelphia, 1921; served during the World War; aged 29; died, Nov. 28, 1925.

Calvin Dix Horton, Calmar, Iowa; State University of Iowa College of Medicine, Iowa City, 1894; aged 60; died, January 24, following a long illness.

Henry Hiram Jewell ⊕ Nashua, N. H.; Hahnemann Medical College and Hospital, Chicago, 1882; aged 68; died, January 31, at St. Joseph's Hospital.

Henry F. Carpenter, Santa Clara, Calif. (licensed, California, 1876); aged 91; died, Oct. 8, 1925, at San Jose, of chronic endocarditis.

Henson H. Cross, Los Angeles; College of Physicians and Surgeons, Keokuk, 1883; aged 92; died, Dec. 20, 1925, of influenza.

Bertram Franklin Bailey, Buchanan, Mich.; Chicago College of Medicine and Surgery, 1905; aged 52; died, January 20.

William W. Gamble, Burlingame, Calif.; Homeopathic Medical College of Missouri, 1881; aged 86; died, Nov. 25, 1925.

Charles W. Hardman, Laton, Calif.; Rush Medical College, Chicago, 1878; aged 71; died, at Riverdale, Dec. 13, 1925.

Samuel H. Braden, Elsmore, Kan.; College of Physicians and Surgeons, Keokuk, 1886; aged 70; died, Nov. 28, 1925.

J. Seldon Sands, Bristol, Pa.; Jefferson Medical College of Philadelphia, 1882; aged 66; died, Nov. 27, 1925.

William G. Osburn, Stonefort, Ill. (licensed, Illinois, 1883); aged 90; died, February 1, of carcinoma.

Simon J. Devaul, Laings, Ohio (licensed, Ohio, 1896); aged 78; died, Dec. 4, 1925, of senility.

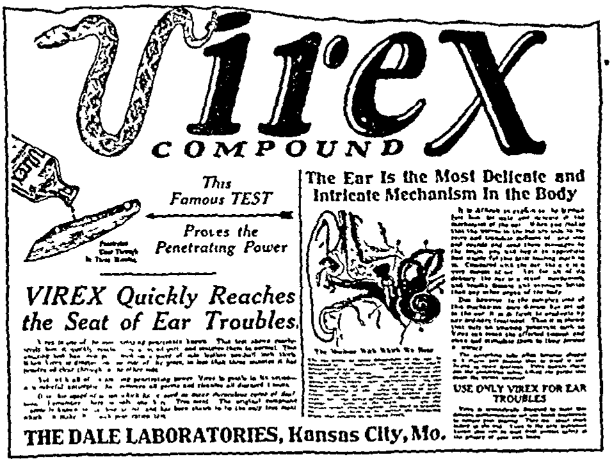
The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

BURGESS-JOHNSON-WEBB SYNDICATE OF FRAUDS

How the Public Has Been Swindled by Kansas City Medical Mail-Order Schemes

On February 11, 1926, Postmaster General Harry S. New issued a fraud order against a group of medical mail-order swindles that had been conducted for some time by Ward H. Webb, W. W. Burgess and Linn D. Johnson. These mail-order quacks fleeced the public from nearly every possible medical angle. Under the name of Dale Laboratories they sold "Virex," a fraudulent cure for deafness, a fake cure for "stomach trouble"—"Dale's Wonderful Stomach Remedy"—and a kidney cure humbug, "Dale's Kidney Prescription." Under the trade name "King's Laboratories" they sold a pyorrhea cure swindle. As the "Hilton Laboratories" they sold "Hilton's Vitamins to Make you Fat." As Warren Laboratories they sold a group of fake beauty preparations. Under the name Webb Chemical Company they sold a fraudulent cure for asthma, the "Famous Webb Combination Prescription." Under the name Walker Institute they exploited those with prostate trouble—"Walker's Prostate Specific." Under the name Restorex Company they sold "Restorex Tablets," a weak man remedy, while they sold a fake rheumatism cure—the "3-Way Combination Treatment" under the name 3-Way Chemical Company. These are only a few of the twenty-seven schemes that have been operated through the mails under the name of the Burgess-Johnson-Webb Corporation.

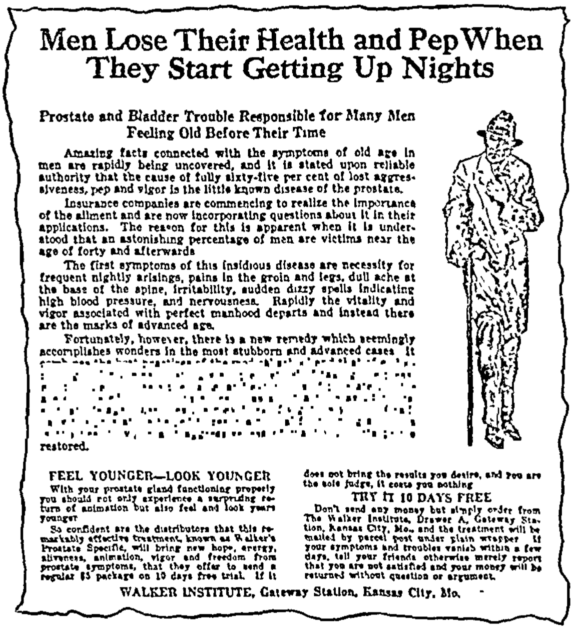

Virex
COMPOUND
This Famous TEST
Proves the Penetrating Power
VIREX Quickly Reaches the Seat of Ear Troubles.
The Ear Is the Most Delicate and Intricate Mechanism In the Body
USE ONLY VIREX FOR EAR TROUBLES
THE DALE LABORATORIES, Kansas City, Mo.

A sample of some of the advertising material (greatly reduced in size) used by Burgess, Johnson and Webb when quacking it under the trade name Dale Laboratories. "Virex" was sold as a cure for deafness.

The government report declares that Burgess, Johnson and Webb have for some years conducted the Gray Advertising Agency at Kansas City, Mo. The agency handled the advertising accounts of a number of medical mail-order concerns and, as so frequently happens, decided to go into the medical mail-order game itself. To do this they incorporated "Burgess-Johnson-Webb Corporation" as a holding company, and put on the market a number of medical mail-order enterprises under almost as many different trade names.

During the spring and summer of 1925 the federal authorities began to investigate the activities of these people. Burgess, Johnson and Webb, evidently being shrewd enough to realize that their game was about up, seem to have cast about for some method of getting "out from under." The memorandum of Judge Horace J. Donnelly, Solicitor of the Post Office Department, to the Postmaster General, recommending the issuance of a fraud order against these various fakes, states that in October, 1925, Burgess and Johnson entered into a contract with Webb whereby their interests were conveyed to Webb for the consideration of $50,000, in payment of which fifteen promissory notes were given by Webb to Burgess and Johnson. Webb is said to have declared that when this arrangement was made it was with the understanding that the several fraudulent businesses were to be liquidated and that the notes that Webb gave to Burgess and Johnson were not personal notes but the notes of the Burgess-Johnson-Webb Corporation. Webb is said to have stated further that it was understood that if the business should fall short of paying the notes—in other words, if the government should bar the thing from the mails—the notes would be "simply thrown away."

On the date set for the hearings of this case, Ward H. Webb appeared at Washington accompanied by a Washington attorney, Jerry Mathews, while John A. Nash of Chicago appeared at the same time as attorney of Warren W. Burgess and Linn D. Johnson. While Webb offered some defense in the cases against "Dale Laboratories," "Warren Laboratories," "Hilton Laboratories" and "Walker Institute," he offered no defense in the cases of the Webb Chemical Company, Associated Health Institutions, Associated Health Institute, Burgess Wholesale Mercantile Company and the King Laboratories.



Men Lose Their Health and Pep When They Start Getting Up Nights

Prostate and Bladder Trouble Responsible for Many Men Feeling Old Before Their Time

Amazing facts connected with the symptoms of old age in men are rapidly being uncovered, and it is stated upon reliable authority that the cause of fully sixty-five per cent of lost aggressiveness, pep and vigor is the little known disease of the prostate.

Insurance companies are commencing to realize the importance of the ailment and are now incorporating questions about it in their applications. The reason for this is apparent when it is understood that an astonishing percentage of men are victims near the age of forty and afterwards

The first symptoms of this insidious disease are necessity for frequent nightly arisings, pains in the groin and legs, dull ache at the base of the spine, irritability, sudden dizzy spells indicating high blood pressure, and nervousness. Rapidly the vitality and vigor associated with perfect manhood departs and instead there are the marks of advanced age.

Fortunately, however, there is a new remedy which seemingly accomplishes wonders in the most stubborn and advanced cases. It [illegible] restored.

FEEL YOUNGER—LOOK YOUNGER

With your prostate gland functioning properly you should not only experience a surprising return of animation but also feel and look years younger

So confident are the distributors that this remarkably effective treatment, known as Walker's Prostate Specific, will bring new hope, energy, aliveness, animation, vigor and freedom from prostate symptoms, that they offer to send a regular $5 package on 10 days free trial. If it does not bring the results you desire, and you are the sole judge, it costs you nothing

TRY IT 10 DAYS FREE

Don't send any money but simply order from The Walker Institute, Drawer A, Gateway Station, Kansas City, Mo., and the treatment will be mailed by parcel post under plain wrapper. If your symptoms and troubles vanish within a few days, tell your friends otherwise merely report that you are not satisfied and your money will be returned without question or argument.

WALKER INSTITUTE, Gateway Station, Kansas City, Mo.

Under the trade name Walker Institute Burgess, Johnson and Webb sold a quack remedy for "prostate trouble." Here is a facsimile of one of the advertisements, greatly reduced.

Attorney Nash offered and made no defense for Burgess and Johnson, but filed a motion, supported by a brief, requesting that no fraud order be issued against the names of his clients and asking that no reference whatever be made to their names in any finding of fact that might be prepared. It was brought out by the government in its investigations that Burgess, Johnson and Webb had no medical training and that none of the variously named "laboratories" were laboratories in fact. Webb made a pretense of having had some training as a chemist, claiming that he studied chemistry at the University of Missouri. When confronted with a certified report from the Registrar of the University, however, he was unable to point out the course in chemistry which he claimed to have pursued, but opined that it was included in the credit given him for "general botany."

No physicians, of course, were employed by these quacks in connection with any of the enterprises, although, as will be shown in discussing some of the individual frauds, they did employ the quack David H. Reeder of Laporte, Indiana, whose fakeries have been discussed at different times in The Journal. What follows is a brief abstract of Judge Donnelly's memorandum on the various schemes against which the fraud orders were issued:

DALE LABORATORIES

Under the name "Dale Laboratories" and "W. H. Dale," Burgess, Johnson and Webb exploited "Virex," as an alleged cure for deafness. The name W. H. Dale was fictitious. The initials were derived from the first two initials of W. H. Webb's name, while the "Dale" is the middle name of Linn Dale Johnson. Virex, it appears, was a name given by the Burgess-Johnson-Webb outfit to a nostrum previously known as "K-17" promoted by a mail order quack, Cooley H. Greene, who used the trade name "Greene Laboratories." Greene placed his advertising through the Gray Advertising Agency, and getting behind in his payments an arrangement was entered into whereby Burgess-Johnson-Webb should put out a similar product under the name "Virex" sold by the "Dale Laboratories." Greene is said to have declared that he never did give Burgess, Johnson and Webb his complete formula. This, however, did not prevent this trio from incorporating in their advertising and literature a number of testimonials that had been furnished for "K-17." The name K-17 was eliminated from the testimonials and the word Virex substituted. Greene, it should be said, originally put out his preparation under the name "Rattlesnake Oil," although of course, it contained no rattlesnake oil. To quote from the *memorandum*:

> "The advertising and literature of the Dale Laboratories describes 'Virex' as 'an old time physician's prescription' and 'the discovery of a widely known physician.' Mr. Webb stated at the hearings that, at the outset, the basis for these representations was his understanding that Cooley H. Greene was a doctor and that he 'discovered' the preparation, but that some months after the Dale scheme had been started, he learned from Greene himself that he was not a physician, and further, that Greene had served a term in Leavenworth penitentiary at one time. Mr. Webb stated that Greene had formerly peddled his preparation, known as 'K-17,' around the country from town to town.
>
> "The evidence shows that after Webb learned that Greene was not a physician, Messrs. Burgess, Johnson and Webb had a number of conferences on the subject and decided to submit the matter to some physician in order that they might continue the above quoted representations in their advertising and literature. The evidence further shows that the above mentioned representations have been carried in the advertising and literature from the outset of the scheme and were not eliminated after the disclosures of Greene to Webb, as above indicated.
>
> "Mr. Webb stated that in December, 1923, the formulas for the Virex treatment were submitted to 'Dr.' David H. Reeder, of Laporte, Indiana, and that 'Dr.' Reeder suggested a few slight changes, and that thereafter Messrs. Burgess, Johnson and Webb considered that they were justified in continuing the representation as to the discovery of 'Virex' by a 'widely known physician.' Mr. Webb stated that 'Dr.' Reeder had, in effect, 'rediscovered' the preparation. On direct examination, Mr. Webb asserted that 'Dr.' Reeder was a physician of high standing. However, on cross examination, he identified a picture of 'Dr.' David H. Reeder, which appears on page 770 of 'Nostrums and Quackery,' published by the American Medical Association. It was shown that Reeder has long been known as a promoter of various mail order medical schemes. Reeder's operations, under the name of the 'Home Health Club', are fully described in the above mentioned 'Nostrums and Quackery', volume 2. He has promoted, at various times, lost manhood cures, piles cures, cancer cures and various other schemes. In September, 1913, the Department of Registration and Education of the State of Illinois arrested Reeder for practicing medicine without a license, and he was fined $25.00."

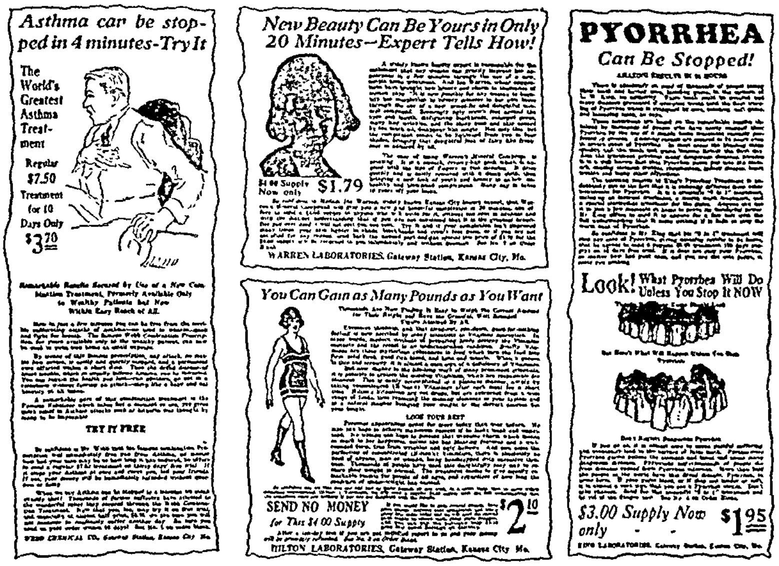
The memorandum goes on to show that Virex was made for the Burgess-Johnson-Webb concern by George A. Breon and Co. of Kansas City. This presumably is the same concern that exploits "ethical proprietaries" to physicians. The Virex treatment consisted of an oil, a laxative tablet and a nasal tablet for douche purposes. The oil had the following composition:

Methyl Salicylate	6 pints
Oil Eucalyptus	3 pints
Oil Camphor	6½ pints
Neatsfoot Oil	2½ pints
Oil Mustard	9½ drams
Benzol	12½ pints

The laxative tablets were:

Powdered ext. Cascara	1 grain
Podophyllin	1⁄10 grain
Potassium Iodide	1 grain
Pepsin	¼ grain
Sodium Salicylate	1 grain
Thiosinamine	¼ grain
Powd. ext. Nux Vomica	1⁄10 grain
Powd. ext. Cornsilk	¼ grain

The nasal tablets were found on analysis to contain Dichloramin-T, sodium carbonate and starch. It is not necessary to say that the Virex treatment as a cure for deafness was a plain, unadulterated swindle. Although Virex was advertised under the claim that it would cure deafness within twenty-four hours after the victim had purchased, the follow-up letters were so worded as to induce him to purchase more, stating that a chronic case could not be expected to be cured in a short time. When this inconsistency was called to Webb's attention his only explanation was that this was a device generally employed in medical mail-order enterprises. The government brought out the fact that in one of the test cases conducted by inspectors a letter was written to the Dale Laboratories advising them that the writer's ear drums were entirely gone but that if they would guarantee to restore his hearing they might send the treatment. It was sent!


Asthma can be stopped in 4 minutes-Try It
The World's Greatest Asthma Treatment
Regular $7.50 Treatment for 10 Days Only $3.70
TRY IT FREE
WEBB CHEMICAL CO.
New Beauty Can Be Yours in Only 20 Minutes—Expert Tells How!
$4.00 Supply Now only $1.79
WARREN LABORATORIES, Gateway Station, Kansas City, Mo.
You Can Gain as Many Pounds as You Want
LOOK YOUR BEST
SEND NO MONEY for This $4.00 Supply $2.10
HILTON LABORATORIES, Gateway Station, Kansas City, Mo.
PYORRHEA Can Be Stopped!
Look! What Pyorrhea Will Do Unless You Stop It NOW
$3.00 Supply Now only $1.95
KING LABORATORIES

Greatly reduced facsimiles of the advertisements of four more medical swindles exploited by Burgess, Johnson and Webb under the names, respectively: Webb Chemical Company, Warren Laboratories, Hilton Laboratories and King Laboratories. Just four of the extensive group of mail-order quackeries carried on by these gentry.

WEBB CHEMICAL COMPANY

The Webb Chemical Company, according to the government report, was started by the Burgess-Johnson-Webb trio in January, 1924. Under this trade name "Webb's Combination Prescription" for asthma was exploited. The advertising literature was prepared by Webb and Burgess. The treatment was alleged to have been discovered by one George F. Burgess, a relative of Warren W. Burgess. The asthma cure — "Webb's Famous Prescription"— consisted of tablets and a liquid to be used in a nebulizer. The tablets had the following composition:

Potassium Iodide	3 grains
Powdered Lobelia	1 grain
Powdered Squill	1 grain
Powdered Sugar	½ grain

The nebulizer fluid was composed of:

Novocaine	10 grains
Atropine Sulphate	1 grain
Distilled Water	½ ounce
Glycerine	½ ounce

One of the testimonials for the asthma remedy was ascribed to "Mr. Warren Burgess." Of course, the public had no means of knowing that Burgess was one of the promoters of the swindle.

WARREN LABORATORIES

Under the trade name "Warren Laboratories" and also the name "W. H. Warren," the Burgess-Johnson-Webb concern exploited a complexion treatment consisting of "Clear-Plex" and "Plex-Tone." Burgess-Johnson-Webb informed the government "that the remedies were 'discovered' by George A. Breon, and that they are prepared in the George A. Breon and Company laboratories, in Kansas City, Missouri." The "Plex-Tone" tablets were to be taken internally and contained 1 grain of calcium sulphide. "Clear-Plex," which was to be applied externally night and morning, had the following composition:

Oil of Wintergreen	½ ounce
Corrosive Sublimate	32 grains
Boric Acid	32 grains
Salicylic Acid	32 grains
Alcohol, formula 39-B	27½ ounces
Witch Hazel	4½ ounces

This combination was said to produce a "clear, attractive skin" and to free one from "pimples, acne, blackheads, oily skin, brown spots and unsightly blemishes." The form letters employed in this scheme purported to come from "W. H. Warren," who, of course, was just as fictitious as "W. H. Dale." The literature also contained a story to the effect that the treatment was discovered by Ina Warren, a nonexistent sister of the fictitious W. H. Warren. One of the testimonials issued by the Warren Laboratories purported to be from "David H. Reeder, M.D., Chicago, Illinois." Reeder, as has already been pointed out, is not an M.D. but a mail-order quack in his own right who evidently can be hired by other mail-order quacks when the occasion arises.

HILTON LABORATORIES

The Hilton Laboratories scheme was started by Burgess, Johnson and Webb in November, 1923. A fictitious W. W. Hilton was used in the scheme, the name being made up from the first two initials of Warren W. Burgess and the middle name of Ward Hilton Webb. Of course the Hilton Laboratories were not laboratories. As in other cases, the government reports that these mail-order quacks employed George A. Breon & Co. to furnish their nostrum.

The Hilton Laboratories exploited "Hilton's Vitamines" which were said to quickly build up thin, scrawny figures and to make it possible for any one to have "smooth, full shoulders, rounded neck and a plump, trim figure." The product, according to the Solicitor's memorandum, had the following composition, the amount being sufficient for 42,000 tablets:

Gaduol	3 lbs.	10 oz.
Wheat Germ	2 lbs.	..
Yeast	3 lbs.	..
Metagen ¼ grain	1 lb.	8 oz.
Magnesium carbonate	2 lbs.	8 oz.
Powd. Licorice root	1 lb.	..
Dextrine	2 lbs.	..

Starch	5 lbs.	..
Powd. Sugar	10 lbs.	..
Vanillin	..	3 oz.
Coumarin	..	1 oz.
Powd. Cloves	..	4 oz.
Talcum q. s.	42 lbs.	

The whole trend of the advertising of "Hilton's Vitamines" was to give the impression that the public is unable to get a sufficient quantity, or the right kind of vitamins in its daily diet. It was shown at the hearing that at least 86 per cent of the ingredients of Hilton's Vitamine Tablets did not contain any vitamins, and the remaining portion contained very small percentages of certain vitamins. The amount of vitamins that would be obtained by taking from two to six of these tablets daily would be practically negligible compared with the amount obtained in an ordinary daily diet.

WALKER INSTITUTE

Burgess, Johnson and Webb started the Walker Institute in November, 1923. It had the usual fictitious individual connected with it, in this instance "I. B. Walker," the last name being derived from the maiden name of Burgess' wife. The Walker Institute sold an alleged cure for prostate trouble. To quote from the memorandum:

> "They informed the inspector that no physicians, chemists or pharmacists are employed, and the concern has no laboratories. The preparations are prepared by George A. Breon and Company of Kansas City, Missouri. They stated that the treatment was worked out by W. W. Burgess, who used it on himself for prostate trouble. There is in evidence a full page advertisement of this scheme that appeared in the *National Tribune*, of Washington, D. C., a paper that circulates largely among Civil War veterans."

The treatment consisted of two tablets, the first of which had the following composition:

Hexamethylenamine	4 grains
Des. Prostate Substance	1½ grains
Thyroid Substance	⅙ grain
Powd. Ext. Colchicum	¼ grain
Calcium Phosphate	1¼ grains

The second tablet was:

Methylene Blue	1 grain
Boric Acid	2 grains
Ext. Cornsilk	½ grain
Ext. Hydrangia	½ grain

Of course the physiologic action of methylene blue was taken advantage of as is usually the case when this substance is used by quacks. The user was told that a few hours after using the "pink tablets"—those containing methylene blue—a blue color would be noticed in the urine. This, said these quacks, was evidence that the "antiseptic ingredients in the tablets are reaching the seat of your trouble" and will "help eliminate the irritation and poisons causing your trouble." The solicitor points out in his memorandum that any one taking methylene blue will pass urine of a blue color, and he points out further that in years past a number of medical mail-order frauds have exploited methylene blue for the sole intent and purpose of tricking the victims.

KING LABORATORIES

In February, 1924, Burgess, Johnson and Webb started the King Laboratories, creating "L. W. King" as the fictitious individual whose signature appeared on the letters. "King's Combined Pyorrhea Treatment," or as it was some times called "King's Combined Three-Way Pyorrhea Treatment" was the product sold under this trade name. It consisted (1) of a mouth wash made up of saponified creosote oil and oil of peppermint colored pink; (2) iodine, creosote and camphor in oil for local application; (3) 1 grain calcium sulphide tablets, and (4) chloramine-T tablets. As the memorandum points out, the "treatment" was somewhat similar to that sold under the name of Strong's Laboratories, against which a fraud order was issued Jan. 16, 1926, and also that sold by the name Moore's Medicine Laboratories, which was declared fraudulent Aug. 27, 1925.

ASSOCIATED HEALTH INSTITUTIONS, ET AL.

Under the names "Associated Health Institutions," "Associated Health Institute," "Burgess-Johnson-Webb Corporation" and "Burgess Wholesale Mercantile Co." Burgess, Johnson and Webb sent out circular matter advertising practically all of their line of medical fakes. The letter-head sent out under the name "Associated Health Institutions" stated that it was an association formed for the purpose of offering standard guaranteed products direct to the purchaser at a lower price than the manufacturer would sell them. The various false and fraudulent pretenses, representations and promises employed in the sale of the Virex deafness cure, the Webb's Combination Asthma Cure and the Walker Prostate Specific, etc., were used in these schemes. It is brought out in the Solicitor's memorandum that since the hearings were held the Postmaster at Kansas City had been notified to cease delivering mail addressed to the nineteen other concerns run by Burgess, Johnson and Webb.

As stated at the outset, on Feb. 11, 1926, the government issued a fraud order covering the names Dale Laboratories, W. H. Dale, Webb Chemical Company, Hilton Laboratories, W. W. Hilton, King Laboratories, L. W. King, Walker Institute, I. B. Walker, Warren Laboratories, W. H. Warren, Ina Warren, Associated Health Institutions, Associated Health Institute, Burgess-Johnson-Webb Corporation and Burgess Wholesale Mercantile Co.

Unfortunately the government did not issue a fraud order against the personal names of Ward H. Webb, Warren W. Burgess and Linn D. Johnson. These quacks who have successfully fleeced the public out of thousands of dollars are allowed to continue to use the United States mails in their individual capacities and have been penalized merely to the extent that they can no longer receive money from victims through this particular group of schemes. It is to be regretted that they are still out of the penitentiary and are permitted to keep their "swag."

Correspondence

ENGLISH WEIGHTS AND MEASURES

To the Editor:—Under "Current Comment," The Journal, February 6, page 422, the editorial writer of a Brazilian journal is quoted as saying: "When one tries to reduce English dosage to our own, this involves a series of steps, if not difficult, at least time consuming and bothersome." To the average country doctor, the metric system is meaningless, and for him to fathom it would be "bothersome." Until our nation adopts the metric system, and all weights and measurements are required to be made by it and all scales changed to that requirement, let us at least use the double system in our medical writings.

J. T. Hornback, M.D., Nevada, Mo.

INTRAMUSCULAR ADMINISTRATION OF BISMUTH

To the Editor:—In The Journal, January 30, appears an article by Dr. Irwin Sutton, who reports a case of gluteal abscess following the intramuscular administration of a bismuth salt, neotrepol, which was used in the treatment of a patient with syphilis. The impression conveyed is that the phenomenon is rare.

During our early experience with neotrepol at the Boston Dispensary several years ago, we encountered at least two similar cases. Following the substitution of potassium bismuth tartrate for the latter drug, we encountered at least ten more. These have occurred for the most part in obese women. In view of the large number of patients receiving bismuth treatment, this forms only a small percentage of the total. Nodes appearing at the site of the injection have been not uncommon and have also made their most frequent appearance in women.

An abscess following the injection of bismuth is due as a rule to a faulty technic in the manner of intramuscular administration. One of our cases presented two different abscesses in consecutive weeks and followed the administration of bismuth by a physician carrying out this form of treatment for the first time. The deposition of a small amount of a bismuth compound in the subcutaneous tissues either when the drug is being injected or when the needle is withdrawn may be of sufficient moment to cause the formation of a sterile abscess. J. L. Grund, M.D., Boston.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SNAKE BITE

To the Editor:—I have read with much interest an article in the *Dearborn Independent* on snake bite. Every summer we have snake bite to deal with in this vicinity (Larned, Kan.), and I should like advice as to the reliability of this article.

C. H. Ewing, M.D., Larned, Kan.

Answer.—Paul MacDonald's interview with Mr. Ditmars in the January issue of the *Dearborn Independent* on the subject of the venom of deadly snakes and the serum for snake bite is the article concerned. In the New York Zoological Garden, Mr. Ditmars has one of the largest and most interesting exhibits of snakes in the world. He has also devoted much time to the dangerous task of extracting venom for experimental purposes. Calmette's serum, made by immunizing the horse, is undoubtedly ideally antidotal to the cobra venom, and great hopes were naturally raised at its discovery in view of the fact that twenty thousand or more of India's population die yearly from snake venom. The difficulty of applying the remedy, however, lies in the vastness of the territory, the isolated villages, and the habits of the working people, whose lower extremities are not protected and who often sleep out at night when the wandering cobra, seeking its meal of snakes, finds the sleeping native and wantonly bites him. Death takes place quickly, and under the circumstances it must be impossible to administer the remedy in any but rare instances. Valuable as the serum is, it can hardly have made even a faint impression on the mortality record.

In Brazil, conditions are different and more favorable. The working population there, while scattered through the forests, particularly in the north, are more or less concentrated about the haciendas, making it easy to see the victims promptly and provide efficient care. The situation in Brazil has been transformed by the pioneer work of Dr. Vital Brazil in the Institute of Butantan São Paulo, where serums are prepared against the numerous poisonous snakes, including the coral snakes of the cobra group and the rattlesnakes and other pit vipers, the efficiency of which has been demonstrated beyond a doubt. The former head of the Butantan Institute was Dr. Afranio Amaral, who (The Journal, Dec. 5, 1925, p. 1822) has been asked to organize the laboratory for research on animal venoms at Harvard University. An educational campaign has been carried on, the value of the serums has been given popular demonstration, and they have been distributed among the planters with full instructions as to preservation and use. In exchange, the planters send to the institute the various poisonous snakes found on their plantations for identification and for the manufacture of serum. Under this intelligent plan, the saving of life in Brazil has been a notable one.

The serums differ, so that each different species of poisonous snake calls for its particular antivenom. For that reason, it is not possible for us to import an effective venom from Brazil to the United States unless, as they have done, we send a supply of venom to be used in immunizing the animals from which the serum is taken.

In San Diego, Calif., there is a zoological garden, of which Dr. H. M. Wegeforth is the director. Mr. L. M. Klauber is the scientific curator of the herpetologic department. When any one in or near San Diego is bitten, the zoo is immediately notified by telephone, and an airplane is dispatched to the scene with a suitable package of serum with full instructions. The package is dropped to the ground, and the airplane returns.

One of the difficulties of the situation is that these highly organized serums do not keep well and various kinds must be kept in stock, while in the scattered populations of our Southern states too much time elapses between the injury and the treatment. The airplane, however, offers a solution.

It is a comfort to know that not more than one in twelve or fifteen persons bitten dies of the bite, even under our customary inefficient methods of treatment. A bite by the true water moccasin (not the maligned, though vicious, common water snake) is quite rare. It is also rare to hear of any one dying from the bite of a copperhead or a pigmy rattler. If a big diamond back rattlesnake or his Texas congener, say one five feet in length, strikes a man and injects his poison, death may follow quickly. A dog will sometimes almost drop in his tracks.

If there is a locality where the bite of a poisonous snake is relatively frequent, it would be well to keep fresh antivenom for that particular snake on hand. The use of antivenom should not supersede the use of the customary surgical methods.

EMULSIFICATION OF COD LIVER OIL AND VITAMINS

To the Editor:—Does the beating and consequent aeration required to emulsify cod liver oil have a destructive effect on the vitamin?

S. J. Beach, M.D., Portland, Me.

Answer.—Emulsification of cod liver oil is best carried out at a low temperature. As a short period of aeration at a low temperature does not lead to destruction of either vitamin A or vitamin D (the antirachitic vitamin) it is safe to say that emulsified cod liver oil is equal in vitamin potency to the unemulsified. As a matter of fact, some tests have been carried out with emulsified samples, but unfortunately these tests have not clearly distinguished between vitamin A and vitamin D. As far as they have gone, however, they have indicated sufficient vitamin content to warrant therapeutic use.

"SNAPPING" IN THE BACKBONE

To the Editor:—Can you give the anatomic explanation of the following sensation: When the head is turned one way and then turned in the opposite direction, a snapping sound is heard. This makes an "impression" under chiropractic adjustments. The candidate takes it for granted that something has been put in place. I wonder what the true explanation of this snapping is.

C. B. Kenton, M.D., Artesian, S. D.

Answer.—This snapping is much like the snapping that can be produced in one's finger or toe joints. It is a mistaken idea that in all these cases something snaps in or out of place. It is a pressure change that causes the joint to snap. Chiropractors have been known to do it with their fingers in the course of a manipulation to fool the victim into believing that a joint was put in place. There are undoubted cases due to snapping of the ligamentum nuchae over one or more spinous processes. It is a situation analogous to "snapping hip," in which condition the tensor fasciae femoris snaps over the great trochanter.

GLYCERIN FOR VAGINAL LUBRICANT

To the Editor:—Please let me know through The Journal whether the use of glycerin as a lubricant for vaginal examination during the first stages of labor has (*a*) any harmful or undesirable effect on the vaginal mucosa; (*b*) any injurious effect on the rubber glove used? The amount of glycerin used is just sufficient to moisten the second and third fingers of the examining gloved hand. Please use initials only.

B. G., Long Island.

Answer.—As far as we know, glycerin has no deleterious action on the vaginal mucosa when used as a lubricant during labor. In one of the leading maternity hospitals in the country, glycerin is a constituent of the lubricant employed and no harm has ever been ascribed to the lubricant. The opinion of chemists specializing in rubber is that glycerin is not harmful but that petrolatum is harmful to rubber gloves.

RECRESAL

To the Editor:—Can you give me any information about a material called Recresal?

Jerome Alexander, M.Sc., New York.

Answer.—Recresal, according to the label on the package, is prepared by the Chemical Works, late H. & E. Alberts, Biebrich/Rhein (Germany). Some of the claims made for the product are: "Highly efficient, corroborative for the sick, convalescents and those in need of recreation." It is also

"Specially recommended in cases of weakness and exhaustion of a physical and psychic nature, in bodily and mental overstrain; indispensable for the preservation of the tone of muscles and nerves."

According to Arends-Keller (*Neue Arzneimittel und Spezialitäten*, 1922, p. 417), Recresal is 'sodium biphosphate (sodium acid phosphate; primary sodium phosphate). Tests made in the A. M. A. Chemical Laboratory confirm the statement that sodium acid phosphate is the essential constituent. In view of the chemists' findings, the claims made for the product are preposterous.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 2. Sec., Dr. Harry C. De Vighne, Juneau.

CALIFORNIA: Los Angeles, March 8-11. Sec., Dr. Charles B. Pinkham, Room 906, Forum Bldg., Sacramento.

CONNECTICUT: Hartford, March 9-10. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford. Homeo. Board, New Haven, March 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

IDAHO: Boise, April 6. Commissioner of Law Enforcement, F. A. Jeter, Boise.

MAINE: Portland, March 9-10. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MASSACHUSETTS: Boston, March 9-11. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

MISSOURI: Jefferson City, March 9-11. Chief, Licensure, Dr. Ross Hopkins, Capitol Bldg., Jefferson City, Mo.

MONTANA: Helena, April 6-8. Sec., Dr. S. A. Cooney, Helena.

NEW HAMPSHIRE: Concord, March 11-12. Sec., Dr. Charles Duncan, Concord.

NEW MEXICO: Santa Fe, April 12-13. Sec., Dr. W. T. Joyner, Roswell.

OKLAHOMA: Oklahoma City, March 9-10. Sec., Dr. J. M. Byrum, Shawnee.

PORTO RICO: San Juan, March 2. Sec., Dr. D. Biascoechea, Box 804, San Juan.

TEXAS: Dallas, American Board of Otolaryngology, April 19. Sec., Dr. W. H. Loeb, 1402 South Grand Blvd., St. Louis, Mo.

Kentucky December Examination

Dr. A. T. McCormack, secretary of the State Board of Health of Kentucky, reports the written examination held at Louisville, Dec. 8-10, 1925. The examination covered 11 subjects and included 110 questions. An average of 70 per cent was required to pass. Of the 10 candidates examined, 8 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent
PASSED		
Howard University School of Medicine	(1925)	81, 83
Loyola University School of Medicine	(1925)*	85
Univ. of Illinois College of Phys. and Surgs	(1915)	91
Hospital College of Medicine, Louisville	(1905)	92
University of Louisville School of Medicine	(1924)	86
Harvard University	(1923)	91
Meharry Medical College	(1925)	86
FAILED		
Cotner University Medical Department	(1911)	65
University of Naples, Italy	(1921)†	68

* This candidate has completed his medical course and will receive his M.D. degree on completion of a year's internship in a hospital.

† Verification of graduation not completed by the American Medical Association.

Dr. McCormack also reported during 1925 the names of two candidates licensed by examination, 16 by reciprocity and 2 by endorsement of credentials. The following colleges were represented:

College	Year Grad.	Per Cent
PASSED		
University of Louisville School of Medicine	(1925)	90 ‡

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
State University of Iowa College of Medicine	(1920)	Iowa
Kentucky Schc		W. Virginia
University of "		Texas
University of		W. Virginia
University of " "		Penna.
Barnes Medical College, St. Louis	(1908)	Illinois
Columbia University College of Phys. and Surgs	(1908)	Washington
Miami Medical College, Cincinnati	(1894)	Ohio
University of Cincinnati Coll. of Med........(1920)	(1924)	Ohio
Meharry Medical College......(1923) (1924) W. Va.	(1925)	Tennessee
University of Tennessee College of Medicine	(1909)	Tennessee
Vanderbilt University School of Medicine	(1925)	Tennessee
McGill University Faculty of Medicine	(1922)	Canada

College	Year Grad.	Endorsement with
ENDORSEMENT OF CREDENTIALS		
Johns Hopkins University Medical Department	(1922)	N. B. M. Ex.
Woman's Medical College of Pennsylvania	(1923)	N. B. M. Ex.

‡ No grade given.

Book Notices

THE CLIMATES OF THE UNITED STATES. By Robert DeCourcy Ward, Professor of Climatology in Harvard University. Cloth. Price, $4. Pp. 518, with 145 illustrations. Boston: Ginn and Company, 1925.

According to its preface, this is the first book since 1875 that is devoted wholly to the climates of the various sections of our vast country. It includes an historical discussion of the development of climatologic knowledge and special chapters on such topics as snow, rain, thunderstorms, tornadoes and hot waves. Two chapters of considerable importance deal with climate and health, and climate and crops. In the former, one sentence reads: "A climate which encourages people to spend the maximum possible amount of their time outdoors in the open air is, other things being equal, the best for the majority of men and women." The author also says, "While fully recognizing the many remarkable cures which have been accomplished in the cases of thousands of tuberculous patients when such persons were sent out in time, were properly advised as to the best place of residence, and were financially able to make the best possible use of their opportunities, it is undeniable that many serious mistakes have been made by the medical profession in advising invalids to go to the Southwest." These mistakes, the author believes, have been due to inadequate knowledge of actual climatic conditions, such as are made fully apparent in this book.

An Introduction to Objective Psychopathology. By G. V. Hamilton, M D, Director of Psychobiological Research, Bureau of Social Hygiene, Inc. With Foreword by Robert M. Yerkes, Ph.D., LL.D., Professor of Psychology, Yale University. Cloth. Price, $5. Pp. 354. St. Louis: The C. V. Mosby Company, 1925.

The author presents studies of 200 patients with nervous diseases found in a single community and without any attempt to classify them according to commonly accepted neuropsychiatric terms. He concludes that 145 of the 200 persons studied owed their nervousness wholly or in part to maladaptive habits of response to personal problems and difficulties. Many of them also suffered from actual physical disease. While not discarding entirely freudian classifications, he endeavors to fit them into his own scheme, realizing that the end-result is perhaps somewhat disorderly. The second half of the book is an attempt to present the new field of objective psychopathology, explaining the relation of his views to those of the freudian and other schools of psychiatric classification. The author is also able to indicate the relation of human reactions to experimental studies previously made on monkeys.

SOME GERMAN SPAS. A Holiday Record. By S. L. Bensusan. Cloth. Price, 8 shillings net. Pp. 160, with illustrations. London: Noel Douglas, 1925.

"The keynote of all of these places is cheerfulness." With this sentence in his opening chapter on the psychology of cures, Mr. S. L. Bensusan explains the popularity of the German watering places. These resorts have enjoyed great vogue since time immemorial, and they are beginning to recover from their postwar difficulties. The book is illustrated with rotogravures. It is quite definitely a travel book rather than a guide to therapeutic indications. Many of the essays, which are well written, have previously appeared in British periodicals. This account of the German spas is a most enjoyable and useful book for any one planning a health trip abroad.

THE GROWTH OF BIOLOGY. Zoölogy from Aristotle to Cuvier, Botany from Theophrastus to Hofmeister, Physiology from Harvey to Claude Bernard. By the Late William A. Locy, Ph.D., Sc.D., Professor in Northwestern University. Cloth. Price, $4. Pp. 481, with 140 illustrations. New York: Henry Holt & Co., 1925.

The growth of biology is also essentially that of medicine, to which it is fundamental. Locy's story of this growth is above all, a presentation in proper perspective of the growth of many sciences dealing with living organisms. It may be considered as of the highest accuracy, since the author has constantly consulted original sources in order to verify his observations, and since he presents the language of such original sources whenever it can be given without distortion of its relative importance. This is a most useful book for any one wishing to obtain a general survey of the history of the modern medical sciences.

Atlas of Diseases of the Skin: With Diagnostic and Therapeutic Notes By Prof. G. Riehl, Prof. Leo V. Zumbusch and John B Ludy, A M, M D, Dermatologist to the Lankenau and Methodist Hospitals, Philadelphia. Part I. Infectious Diseases of the Skin Part II. Inflammatory Diseases of the Skin Part III. Atrophies, New Formations, Hypertrophies. Leather. Price, $25 Three volumes Pp 149, with 84 plates. Philadelphia: P. Blakiston's Son & Co, 1925

Since diagnoses of diseases of the skin depend primarily on familiarity with the various appearances of lesions, an atlas in colors of the more common types of skin disturbances is a valuable aid to any medical student. The three volumes of this atlas are, therefore, of value primarily for the pictures that they present. The discussions as to symptoms and treatment are quite inadequate; they are but the briefest of outlines, which in every instance have to be supplemented by reference to more suitable texts.

Who's Who in American Medicine 1925 Edited by Loyd Thompson, M D, F.A.C P., and Winfield Scott Downs. Cloth. Price, $10. Pp 1820. New York: Who's Who Publications, Inc, 1925.

In this book, the publishers have endeavored to follow as closely as possible the plan of other "Who's Who" publications. It is stated that there is no paid material in the volume, although attention has previously been called to some of the circular letters requesting physicians to subscribe to the book as a prerequisite for inclusion in its pages. Whereas the material included, in general, is excellent, the names of many of the great may be sought without success, and hundreds of the not even near-great encumber the seventeen hundred pages of biographic material. The publishers explain that the omission of the names of those of great importance is due to the fact that requested data were not supplied, and offer to include these if they are made available. On the whole, the book is a useful volume for the things which it does contain.

Animals of Land and Sea. By Austin H. Clark, Curator, Smithsonian Institution Cloth. Price, $3. Pp. 276, with 740 illustrations. New York: D. Van Nostrand Company, 1925.

This is essentially an elementary consideration of human and animal relationships in an attempt to make fundamental biology of general interest. The volume is excellently illustrated. The facts are so concentrated in many sections as almost to destroy readability. The book serves excellently, however, its purpose of indicating the place of man in the great world scheme.

La tuberculose pulmonaire Etudes de phtisiologie clinique et sociale Par Léon Bernard, Professeur a la Faculté de médecine de Paris Second edition Paper. Price, 28 francs. Pp 400, with illustrations Paris· Masson et Cie, 1925.

The particular value of this treatise is the fact that it is written strictly from the clinician's point of view for clinicians. Bernard dispenses with much of the usual ballast that clinical books carry so frequently in their introductory chapters, and without being too apodictic he presents in brief and definite terms all that is necessary as a working basis for the clinical discussion: Heredity has no rôle in tuberculosis; all human beings are disposed to become tuberculous; there does not exist any especial predisposition; the significant factors are the quantity of the infection and superinfection and the state of resistance, which can be acquired only by infection. A good clinical classification is given. Symptomatology and diagnosis are thoroughly and readably discussed. There is an interesting chapter on affections of the upper respiratory tract in their relations to pulmonary tuberculosis, another on pregnancy and tuberculosis, an excellent little treatise on the so-called specific medication, and an account of the social and legal aspects. Many a reader will not infrequently take exceptions to some statement, but none will fail to admire the vividness and preciseness of Bernard's presentation, the masterful economy of his language, and the unity of his points of view throughout the book.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender Selections will be made for more extensive review in the interests of our readers and as space permits.

The Clinical Study and Treatment of Sick Children. By John Thomson, M D, LL D, F.R C P, Consulting physician to the Royal Edinburgh Hospital for Sick Children Fourth edition. Cloth Price, 30 shillings net Pp 912, with 258 illustrations Edinburgh. Oliver and Boyd, 1925

Pediatrics of the Scotch school nicely displayed by a clinician quite familiar with world literature, including the American

Physique and Character An investigation of the nature of constitution and of the theory of temperament. By E Kretschmer Translated from the second edition by W J H. Sprott, B A, demonstrator at the Cambridge Psychological Laboratory Cloth Price, $5 Pp 266, with 31 illustrations New York Harcourt, Brace & Co, Inc, 1925

Shows how we are all pyknics or schizoids and what body-build has to do with temperament

I Believe in God and in Evolution By William W. Keen, M D Fourth edition Cloth Price, $1 25 Pp 109, with 5 illustrations. Philadelphia. J B Lippincott Company, 1925

The proof of evolution and a confession of faith

Chronic Infection of the Jaws A short radiological and clinical study. By Stanley Colyer, M.D, M R C P, D M R E, Radiologist, Mildmay Mission Hospital To which is added a synopsis of a series of fifty illustrated cases By Reginald Curnock, L R C P, M R C S, L D S, Dental Surgeon to the Mildmay Mission Hospital Cloth Price, 10/6 shillings net Pp 76, with 26 illustrations London: H. K Lewis & Co, Ltd, 1926

More about focal infection from the teeth

Art of Practice. Cloth. Pp 118 Cambridge The Post Graduate Association.

Therapeutic Notes Cloth. Pp 216 Cambridge. The Post Graduate Association.

Mail order books of trite information at an excessive price One bit of advice reads: "A good rule to follow is to tell the patient as much as it is good for him to know"

Annual Report of the Surgeon General, U S Navy, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy, for the fiscal year 1925 Paper. Pp 283 Washington Government Printing Office, 1925

Atlantic County Mosquito Extermination Commission. Thirteenth Annual Report. Atlantic City, 1925

Carnegie Corporation of New York. Report of the President and of the Treasurer, for the year ended Sept 30, 1925 New York City, 1925.

San Francisco Cancer Survey Second preliminary report. By Frederick L Hoffman, LL D, Consulting Statistician, Prudential Insurance Company of America Newark, N J

The Association of Life Insurance Presidents. Proceedings of the 19th annual meeting New York, 1925.

Studies on the Avian Species of the Cestode Family Hymenolepididae By Roy Lewis Mayhew Illinois Biological Monographs Volume X, No 1 Paper Price, $1 50. Pp 125, with 11 illustrations Urbana: University of Illinois, 1925.

Reports of the Committee for the Investigation of Dental Disease. II The Incidence of Dental Disease in Children Medical Research Council Special report series, No 97. Paper Price, 1s 6d net Pp 48 London· His Majesty's Stationery Office, 1925.

The Illinois Society for Mental Hygiene Annual report of the Medical Director, for year ending September 30, 1925. Chicago.

Immunochemical Studies Edited by Carl H Browning, Gardiner Professor of Bacteriology, Western Infirmary, Glasgow. Contributors. C. H. Browning, M. Kosakai, T. J Mackie, T. Taniguchi, G H Wilson, N Yoshinare Cloth Price, $4 50 Pp. 239. New York: William Wood & Co, 1925

The properties of antigens and antibodies, opsonin and complement.

Medicolegal

Compensable Personal Injury—Influenza and Pneumonia

(De La Pena v. Jackson Stone Co. et al. (Conn.), 130 Atl. R. 89)

The Supreme Court of Errors of Connecticut, in holding that there was no error in this case in confirming an award for the death of an employee, says that, under the workmen's compensation act of that state, a compensable personal injury is an abnormal condition of a living body which arises out of and in the course of the employment and produces an incapacity to work for the requisite statutory period. It need not be traced to a definite happening or event. It may be caused by accident or disease, and includes diseases peculiar to an occupation, except those of a "contagious, communicable or mental nature." The happening or event includes the entire transaction to which the injury is traced, not only the operative causes, but their effect on the body of the injured person.

In this case the employee, a marble setter, as the result of exposure from the lack of heat in the building, the condition of dampness and water in which he worked, and exposure due to riding in an open truck and getting thoroughly drenched, all of which arose in the course of his employment, suffered an attack of influenza which later developed into pneumonia. Influenza is a recognized disease, and, when it renders one incapable of work for the statutory period, is compensable. Influenza is a communicable disease, but it was not peculiar to this employee's occupation, and hence did not fall within the exception to the statutory provision that the word "injury" shall be construed to include any disease which is due to causes peculiar to the occupation and "which is not of a contagious, communicable or mental nature." The pneumonia which developed from the influenza was compensable, since it was not a disease peculiar to this employee's employment, and hence, whether it is a communicable disease or not was immaterial. Furthermore, it would be compensable as a part of the injury to the employee through having developed from the influenza. The conditions which comprised the occurrence—that is, the happening or event in this case—comprised all of the exposure to which the employee was subjected, together with their effect on his body, being the entire transaction to which the influenza was traced.

The compensation commissioner found that the influenza arose out of and in the course of the employment of this employee. The common judgment, which this court shares, would ascribe, in the absence of facts to the contrary, the influenza to the conditions under which the employee worked, and, supplemented as these were by the fact that all the medical testimony agreed that these conditions of exposure might be the cause of influenza, and further by the opinion of the plaintiff's medical expert that these conditions were the cause of the influenza, this court concludes that the subordinate facts did support the conclusions of the commissioner that the influenza was a personal injury within the Connecticut workmen's compensation act as amended, and that it did arise out of and in the course of the employment, and that the pneumonia which developed from the influenza was a part of the injury resulting from it.

Not Required to Investigate Health of Employees

(Willey v. Alaska Packers' Ass'n (Calif.), 238 Pac. R. 1087)

The District Court of Appeal of California, First District, Division 1, in affirming a judgment in favor of the defendant, says that the plaintiff sought to recover damages for the alleged failure of the defendant to provide him with medical and surgical necessities according to the terms of a contract, through which default he contended that he had contracted tuberculosis. He was employed by the defendant to serve as mate on a vessel and as master on a launch, and was one of those who, the shipping articles provided, should "receive medical and surgical attendance and medical and surgical necessities" while engaged under the contract. There was a conflict in the evidence as to whether or not he had ever requested medicine or advised any one of his condition, which question was concluded against him by the verdict of the jury for the defendant.

So far as this court was concerned, this case presented the question of whether or not the defendant corporation was liable in damages for failure to furnish the plaintiff with medical treatment in the absence of a request for it and where there was nothing to bring to the knowledge of the corporation the fact that such service was required. In other words, was the corporation, under its contract, bound to make affirmatively an investigation of the health of its employees in the absence of a demand so to do? This court does not think that any such duty rested on the corporation. If the ailment or injury was of such a character as for it to be perfectly apparent that aid was required to relieve it, there could be no question but that it would be the duty of the corporation to furnish aid, even though it was not asked for. But where, as here, the plaintiff himself did not consider himself sick, and made no complaint, nor asked for aid or assistance, the corporation was not bound to acquaint itself at its peril of the plaintiff's latent ailment. The law imposes no such duty on an employer, and it would be an unreasonable construction of the contract to hold that the defendant corporation was, by reason thereof, under a legal contractual obligation to examine, from time to time, every one of its numerous employees to ascertain whether they might be suffering from some secret affliction. So to hold would be to declare an employer, under such circumstances, an insurer of the health of his employees. Such is not the law.

An instruction was a proper one which told the jury that if it believed from the evidence that the plaintiff contracted tuberculosis by reason of his own gross negligence and failure to exercise proper care for his own health, he was not entitled to recover in this action. A shipowner is not liable for damages on account of the sickness of a seaman when his gross negligence was a contributory cause of his sickness. The question as to whether or not the plaintiff had contracted the disease complained of through failure to make his condition known was one of fact for the jury.

Hearing denied by the Supreme Court of California.

Court Must Determine Competence of Proposed Expert

(Hord v. Spokane International Ry. Co. (Idaho), 238 Pac. R. 891)

The Supreme Court of Idaho says, in this personal injury case, that the Idaho statute is silent on the subject of any of the classes engaged in attempting to treat physical or mental ailments being expert witnesses, and therefore the question as to the competence of the proposed expert must be determined in the first instance by the court, and should be settled before he is allowed to testify. The admissibility of expert testimony is for the court, while its weight is for the jury. If no objection is made as to the witness being qualified when such testimony is offered, his competence as an expert cannot be raised for the first time in the supreme court.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19-23. Dr. Olin West, 535 N. Dearborn Street, Chicago, Secretary.

American Association of Pathologists and Bacteriologists, Albany, New York, April 2-3. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.
American Proctologic Society, Indianapolis, April 16-17. Dr. William A. Rolfe, 331 Beacon Street, Boston, Secretary.
American Society of Clinical Pathologists, Dallas, April 15-17. Dr. Ward T. Burdick, Metropolitan Building, Denver, Colo., Secretary.
Louisiana State Medical Society, Monroe, April 15-17. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.
Medical Women's National Association, Dallas, April 18-19. Dr. Lena K. Sadler, 533 Diversey Parkway, Chicago, Secretary.
New York, Medical Society of the State of, New York City, March 29-April 1. Dr. D. S. Dougherty, 17 W. 43d St., New York City, Sec'y.
Oregon State Medical Society, Portland, April 1-2. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.
South Carolina Medical Association, Sumter, April 6-8. Dr. E. A. Hines, Seneca, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to *1923*. *Periodicals* published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

1: 129-249 (Dec.) 1925

Cardiac Infarction (Coronary Thrombosis). H. A. Christian, Boston. —p. 129.

*Manner of Death in Coronary Thrombosis. F. T. Fulton, Providence, R. I.—p. 138.

*Vasodilatation Following Sympathetic Neurectomy. G. E. Brown and L. G. Rowntree, Rochester, Minn.—p. 144.

*Effect of Sleep on Normal and High Blood Pressure. H. E. Campbell and M. A. Blankenhorn, Cleveland.—p. 151.

Venous Pressure Responses to Exercise in Patients with Heart Disease. H. L. White, P. S. Barker and D. S. Allen, St. Louis.—p. 160.

*Comparative Rate of Absorption of Fresh and of Old Tinctures of Digitalis. D. Vander Hoof and C. C. Haskell, Richmond, Va.—p. 165.

*Independence of Electrical and Mechanical Reactions in Mammalian Heart. C. J. Wiggers, Cleveland.—p. 173.

*Gonococcic Bacteremia with Gonococcic Endocarditis and Aortitis: Case. H. H. Riecker, New York.—p. 191.

*Value of Roentgen Ray in Determining Cause of Aortic Regurgitation. P. V. Ledbetter, Houston, Texas, G. W. Holmes and P. D. White, Boston.—p. 196.

Experimental Heart Disease. I. Methods of Dividing Hearts: Sectional and Proportional Weights and Ratios for Two Hundred Normal Dogs' Hearts. G. R. Herrmann, New Orleans.—p. 213.

*Progression of Chronic Valvular Heart Disease. F. M. Smith, Iowa City.—p. 232.

*Basal Metabolism in Organic Heart Disease. M. W. Lev and W. W. Hamburger, Chicago.—p. 240.

Manner of Death in Coronary Thrombosis.—A large percentage of the patients with coronary thrombosis die as a result of that condition. Death is frequently sudden and often occurs when the general condition has improved and the patient seems on a fair way to recovery. In a series of twenty cases observed by Fulton and followed until their termination, eleven patients died. Seven of them died suddenly. The shortest time from onset until death was about two hours; the longest, four years. In the seven fatal cases, the condition just before the moment of death justified a hopeful prognosis in all of them, especially in five. In only one of the four gradually fatal cases was there abatement of symptoms after the onset or reason to expect anything but fatal issue. No necropsies were performed in any of these cases. In two of the cases, the weight of evidence seems in favor of the opinion that death occurred from heart block. Three others died while lying in bed, without a moment's warning. Two others died on the seventh and ninth day very abruptly. They had been desperately ill and had greatly improved until the day of death. On that day there was a slight recurrence of the pain and discomfort lasting for a few hours, and this was followed by an abrupt termination. One patient died in great pain with a gradually failing heart, four hours after the onset. One died thirty hours after onset, with gradually developing edema of the lungs. One other died twenty-one days from the onset, with recurrence of symptoms on the thirteenth day. Tachycardia developed on the seventeenth day, lasting four days until the heart ceased from exhaustion. Fulton is of the opinion that there is good reason for believing that ventricular fibrillation is the most common cause of sudden death in this condition.

Vasodilatation Following Sympathetic Neurectomy.—During the last three years, approximately fifty patients with Buerger's disease have been studied at the Mayo Clinic. The cases are reviewed by Brown and Rowntree. In the groups of organic obliterative cases, twenty-four Leriche-Handley operations were performed on seventeen patients. Because results were not satisfactory, this operation has been abandoned in the obstructive type of vascular lesion. A unilateral operation was performed in one case of erythromelalgia that had lasted twenty years. The operation brought no relief. The perivascular injection of alcohol in a second case also failed to relieve. In the vasomotor group of cases, two patients with Raynaud's disease were subjected to the same procedure. In one case the result was negligible. In the other, bilateral operations were performed on the arms, with excellent results on the left and failure on the right. A Leriche-Handley operation was performed under local anesthesia on the left femoral artery in Scarpa's triangle in a case of marked hypertension, chronic nephritis, arteriosclerosis and terminal uremia. The course of the disease was in no way affected, and no significant change in the general blood pressure or in that of either extremity could be determined. It was felt, however, that this was hardly a fair test, since the patient was not far from moribund at the time of the operation.

Effect of Sleep on Blood Pressure.—The effect of sleep on blood pressure was studied by Campbell and Blankenhorn in the case, first, of twenty-five normal young men at basal conditions. These showed a drop of blood pressure from 110 to 101 by falling asleep. The greatest drop, due solely to sleep, comes at about the fourth hour of sleep, but this lower level continues throughout the sleeping state. There is a slowing of pulse in sleep parallel to the drop in blood pressure. Of thirty-six patients with elevated blood pressure, only one showed a normal fall of blood pressure in sleep. Sixteen showed a fall due to sleep, which reached a level regarded as normal by ordinary criteria. Twenty showed less fall, varying from no change at all to more or less greater change, but remaining abnormal throughout. Patients whose blood pressure fell to normal in sleep had less evidence of disease, less disability and less elevation of blood pressure. Patients who maintained an elevated blood pressure in sleep showed more signs of disease, and had more disability and more elevation of blood pressure.

Effect of Age on Digitalis Tincture.—The results of their experiments lead Vanderhoof and Haskell to conclude that tincture of digitalis does not "deteriorate" with age when it is tested and employed intravenously, but that a definite "loss of absorbability" occurs with the passage of time, and that this change interferes to an almost equal extent with absorption from the lymph sac of the frog, from the alimentary tract of the cat and from the alimentary tract of man.

Heart Action.—Wiggers' results favor the view that electrical variations are an accompaniment of impulse conduction which precedes the actual contraction process of the heart by a definite interval.

Gonococcic Endocarditis.—Riecker reports a case of gonococcic endocarditis, gonococcic bacteremia with terminal hemolytic streptococcic bacteremia, and septicemia superimposed on chronic endocarditis. The time of onset of symptoms was about two months after the appearance of acute urethritis. The clinical diagnosis was confirmed by positive broth blood cultures for gonococci taken five days before death, and by necropsy findings, all of which were characteristic of the disease. The principal interest in the case was the presence of mycotic aortitis, with rupture of the aorta into the pericardium, the etiologic factor being the gonococcus.

Value of Roentgenoscopy in Aortic Regurgitation.—Thirty-four cases of aortic regurgitation of various types have been studied by Ledbetter, Holmes and White, with particular reference to the roentgen-ray findings. It was found that the roentgen ray is a distinct help in differentiating between aortic regurgitation of syphilitic, rheumatic, arteriosclerotic and hypertensive origin. The chief points of differentiation are discussed.

Prognosis of Chronic Valvular Disease.—In forty patients with chronic valvular heart disease, the progress of the cardiac disability was studied by Smith for a period of from three to six years. The disease definitely progressed in twenty-eight cases. In thirteen of the twenty-eight, the condition terminated fatally. The progression of the disease was indicated by an increase in the size of the heart. In some cases there was, in addition to this feature, a change in the character of the murmur or the development of a new murmur. In others, auricular fibrillation became established or conduction defects were found by means of the electrocardiogram. An active cardiac infection was considered to be largely responsible for the progression of the disease.

Basal Metabolism in Organic Heart Disease.—Seventy-five per cent of the cases of organic heart disease with decompensation made the subject of study by Lev and Hamburger showed an increased basal metabolic rate of an average of 39 per cent above normal. The increase in basal metabolic rate is not related directly to the type of heart involvement, arrhythmia, cyanosis or edema, but seems to vary only with the degree of decompensation and the cardiac and respiratory rate. The high basal metabolic rate decreases gradually with the return of compensation, but remains high or goes higher as decompensation continues or becomes more pronounced. In a case of paroxysmal tachycardia, the basal metabolic rate increased 11.1 per cent during the paroxysm. In a normal subject, artificially induced tachypnea resulted in a 17.5 per cent basal metabolic rate increase. The authors assume that it is probable that the increased work of the heart and the increased activity of the muscles of respiration are responsible for the increase in basal metabolic rate in organic heart disease with decompensation, although the possibility of other factors may be considered, notably a thyroid factor, from transient hyperthyroidism during decompensation, or changes in the thyroid circulation from long standing congestion of the superior circulation.

American Journal of Obstetrics and Gynecology, St. Louis

10: 765-896 (Dec.) 1925

*Pyelographic Findings in Pyelitis Complicating Pregnancy. J. T. Williams, Boston.—p. 765.
*Hermaphroditismus Externus Femininus. W. B. Bell, Liverpool, Eng. —p. 778.
*Cancer of Uterus: Treatment by Irradiation. W. P. Healey, New York. —p. 789.
Benign Perforating Duodenal Cyst Arising from Vestigial Remains of Wolffian Body. M. E. Vogt, Philadelphia.—p. 798.
Histologic Interrelationships of Menstruation and Ovulation. E. Novak, Baltimore.—p. 802.
Delayed Chloroform Poisoning Following Delivery. G. D. Royston, St. Louis.—p. 808.
Ovarian Tumors Complicating Pregnancy: Six Cases. C. B. Ingraham, Denver.—p. 815.
*Use of Insulin in Eclampsia. H. J. Stander and E. E. Duncan, Baltimore.—p. 823.
*Eclampsia, Unusual Nonprotein Nitrogen in Blood: Case. R. D. Mussey, Rochester, Minn.—p. 826.
New Instrument (Cervical Endocleaner) for Treatment of Endocervicitis. S. di Palma, New York.—p. 829.
Report of 106 Cases of Extra-Uterine Pregnancy. H. E. Stein, New York.—p. 833.
Spontaneous Rupture of Umbilical Cord; Two Cases. R. S. Siddall, Detroit.—p. 836.
Roentgenographic Diagnosis of Anencephaly. L. Rudolph, Chicago.—p. 840.
Statistical Survey of Obstetrics in Pasadena. J. S. Hibben, Pasadena, Calif.—p. 843.
Efficiency and Inefficiency of Theories. Special Reference to Gynecology and Obstetrics. A. Plaut, New York.—p. 848.
Lymphangioma of Fallopian Tube: Two Cases. L. W. Strong, New York.—p. 853.
*Case of Premature Labor with Survival of Child. E. C. Lyon, Jr., New York.—p. 856.
*Intraligamentous Pregnancy. W. T. Kennedy, New York.—p. 858.
Minnesota Maternity and Infancy Program. E. C. Hartley, St. Paul. —p. 863.

Pyelitis Complicating Pregnancy.—The facts stressed by Williams in this study lie in a proper conception of pyelitis during pregnancy, not as a condition due directly to the pregnancy but as, in the majority of cases, at least, a chronic preexisting condition brought to a state of acute activity by the pregnancy, and not to be dismissed without further consideration after the pregnancy has terminated. The mechanism of the attacks of pyelitis during pregnancy appears to be as follows: a prolapsed kidney with dilated pelvis, with or without a kinked ureter; additional strain on the excretory apparatus during pregnancy, with later some ureteral compression by the fetal head; urinary stasis; infection with *Bacillus coli;* recovery from acute symptoms after drainage is secured by ureteral catheterization or the end of the pregnancy; but persistence of the original conditions which predisposed to the acute attack leaving the way open to further trouble.

External Feminine Hermaphroditism.—Bell reports four cases. The essential points in regard to this type of intersexuality are as follows: 1. Female internal genitalia are present, but the ovaries, fallopian tubes, uterus and vagina are poorly developed. 2. The external genitalia are feminine in type, except for the greatly hypertrophied phallus and the partial obscuration of the vaginal orifice by the fourchette, which is farther forward than normal. 3. The secondary characteristics, physical and psychic, are chiefly masculine, although in adult life the sexual inclination may be toward the male. Usually, there is precocity in regard to the development of the secondary characteristics.

Radiotherapy for Cancer of Uterus.—Healy is of the opinion that the evidence at hand shows that the careful, continuous, intensive treatment of all cases of carcinoma of the cervix with combined radium and roentgen-ray therapy is justified and that hysterectomy is no longer necessary. In fact, evidence is accumulating to indicate that hysterectomy for carcinoma of the cervix, even when combined with preoperative or postoperative irradiation, or both together, may be a serious handicap to the patients' obtaining the full benefit of irradiation therapy.

Use of Insulin in Treatment of Eclampsia.—The treatment of eclampsia employed by Stander and Duncan is as follows: As soon as the patient is admitted, the modified Stroganoff treatment is started; a specimen of blood is obtained and a chemical analysis done immediately. The sugar and carbon dioxide values are carefully noted, and should these show an undue rise in the blood sugar and a decrease in the carbon dioxide combining power, from 15 to 25 units of insulin is administered. Usually a protective dose of glucose, about 2 Gm. per unit of insulin, is also given. With a marked hyperglycemia, it is, perhaps, not necessary to give glucose with the insulin, but in such cases it is advisable to have orange juice available should the patient develop a hypoglycemia. A drop in the blood sugar level and a rise in the carbon dioxide combining power, as well as a change from coma to consciousness, usually follow the administration of insulin. The indications for the use of insulin in eclampsia are coma or semiconsciousness following a convulsion, together with a carbon dioxide combining power of 30 or below and an elevated blood sugar. The dosage of insulin is gaged by the degree of hyperglycemia and the weight of the patient.

Unusual Nonprotein Nitrogen Retention in Eclampsia.—The notable feature of Mussey's case was the unusual retention of nonprotein nitrogen in the blood. The third day in the hospital, the urea was 168 mg. and the uric acid 18.3 mg. for each 100 cc. of blood, and on the fifth day the urea was 221 mg., creatinine 14.5 mg., and uric acid 14.5 mg. There was complete phenolsulphonphthalein retention, and very low specific gravity of the urine. The clinical recovery was steady and apparently complete. The nonprotein nitrogen retention gradually lessened to 194 mg. of urea on the tenth day, and to 139 mg. on the fourteenth day. On the seventeenth day, 43 mg. of urea, 3.5 mg. of creatinine and 3.1 mg. of uric acid were found for each 100 cc. of blood. The phenolsulphonphthalein function test on the eighteenth day was 30 per cent. Examination of the patient two months after her admission revealed normal renal function.

Premature Labor with Survival of Child.—Lyon's patient was delivered 192 days after the first day of her last period. The baby weighed 2 pounds and 11 ounces (1.2 Kg.), was 35 cm. long, and appeared to be very premature and weak. Although this baby had a precarious existence at the start, and overcame many vicissitudes, he is now at 16 months a strong, sturdy boy, apparently normal in every respect.

Intraligamentous Pregnancy.—Kennedy reports a case of left intraligamentous full term pregnancy with preoperative dead fetus, the mother living.

American Journal of Pathology, Boston

1: 547-702 (Nov.) 1925

*Rabies: Neural Transmission of Virus in Rabbits: Structure and Significance of Negri Bodies. E. W. Goodpasture, Nashville, Tenn.—p. 547.
*Diffuse Tumors of Meninges. W. Boyd, Winnipeg, Can.—p. 583.
*Splenomegaly (Type Gaucher) and Lipoid-Histiocytosis (Type Niemann). W. Bloom, Chicago.—p. 595.

*Ependymomas of Lateral and Fourth Ventricles of Brain. E. F. Hirsch and A. R. Elliott, Chicago.—p. 627.
Vaccine Virus in Vitro: Affinity for Nerve Tissue. N. Hirano, Nagasaki, Japan.—p. 635.
Spontaneous Central Nervous System Lesions in Laboratory Rabbit. L. Bender, Iowa City.—p. 653.
Experimental Production of Gliosis. I. Effects on Nervous System of Rabbit of Intravenous and Intraspinal Injections of Cholesterol Emulsion. L. Bender, Iowa City.—p. 657.
Id. II. Reaction of Brain Tissue to Lipoid Fractions and Residue of Brain Extracts. L. Bender, Iowa City.—p. 667.
*Multinucleated Liver Cell Carcinoma. H. S. Rowen and F. B. Mallory, Boston.—p. 667.

Rabies; Nature of Negri Bodies; Neural Transmission of Virus.—Goodpasture has infected rabbits with rabies fairly regularly by inoculating them with street virus into the right masseter muscle. It is believed that the virus enters the central nervous system through nerves supplying the inoculated muscle. A method of staining to demonstrate Negri bodies is described. A distinction is drawn between Negri bodies and "lyssa bodies," based on structural differences. "Lyssa bodies" were much more numerous in these animals than typical Negri bodies. A degenerative change in the neurofibrillar substance of ganglion cells and their processes is described, which leads to the formation of bodies identical with "lyssa bodies" and with the eosin-stainable substance of Negri bodies. It is believed that "lyssa bodies" are formed directly from such an alteration of neurofibrillar material in a portion of the living cell, with or without the inclusion of inner structures. Degenerative changes are described in the mitochondrial material of axis cylinders and nerve cells leading to the formation of structures which closely resemble the "Innenkörper" of Negri bodies. It is believed that the typical Negri bodies are formed within the living cell by a focal degeneration of neurofibrillar material which melts together and coagulates or coheres about one or more of the structures which result from mitochondrial degeneration. The inclusion of these bodies gives the characteristic architecture to Negri bodies, which alone serves to distinguish them from "lyssa bodies." The hypothesis is advanced that the degenerative changes observed in axis cylinders are the result of the passage of the virus along these processes, and indicate its manner of extension from one focus to another. The material resulting from the degeneration of mitochondria may serve as a favorable medium for the growth and spread of the virus.

Diffuse Tumors of Meninges.—Boyd is of the opinion that diffuse infiltration of the meninges with tumor cells, commonly known as diffuse sarcomatosis of the meninges, is, in the great majority of cases, a secondary condition. The mechanism of the meningeal involvement is invasion of the cerebrospinal fluid with tumor cells from some focus standing in intimate relation to the fluid, such as the choroid plexus or the wall of the ventricles. A clinical diagnosis of the condition may be made from the discovery in the spinal fluid of large pale cells in considerable numbers.

Splenomegaly of Gaucher Type.—Two cases are reported by Bloom, that of a boy, aged 6 years, and that of a woman, aged 42, in whom there was a history of longstanding increase in the size of the spleen, leukopenia, mild secondary anemia, and epistaxis in one case and uterine bleeding in the other. Three cases of the condition first described by Niemann are also reported occurring in infants, aged 18, 14 and 7 months, respectively. The history in the first two of these cases was of long continued disturbance in feeding and a failure of the infants to develop. The third patient died of meningitis at a comparatively early period in the disease. One case was recognized in vivo. The patient improved considerably for two months after removal of his spleen, but then he began to fail again.

Ependymomas of Brain.—Two cases of ependymomas of the brain are reported by Hirsch and Elliott. One, primary in the lateral ventricle, had the infiltrative qualities of a malignant tumor, while the other, in the fourth ventricle, was chiefly an expansile growth pushing aside the adjacent tissues. This difference in growth suggests that certain ependymomas are benign while others are malignant, and that growth characteristics should be recognized in the general class of tumors arising from the ependyma.

Multinucleated Liver Cell Carcinoma.—A report is made by Rowen and Mallory of a liver cell carcinoma containing many huge multinucleated tumor cells which originated from multiple mitoses. In addition, reference is made to seven other tumors of the same type, but without multinucleated cells, occurring in 6,506 consecutive necropsies. Six of the eight cancers were associated with definite cirrhosis, which was of the pigment type in three instances. In the other three cases, the cirrhosis was a combination of the pigment and alcoholic types. Judging from these examples and others in the literature, pigment cirrhosis is the type which is most commonly complicated by liver cell carcinoma.

American Journal of Roentgenology and Radium Therapy, New York

11: 487 602 (Dec.) 1925

*Cholecystography. E. A. Graham, W. H. Cole and G. H. Copher, St. Louis.—p. 487.
Cholecystography. M. C. Sosman, L. R. Whitaker and P. J. Edson, Boston.—p. 495.
**Jejunal and Oral Administration of Tetra Iodophenolphthalein Sodium Salt.* W. H. Stewart and E. J. Ryan, New York.—p. 504.
*Cholecystography and Operative Results in 182 Cases. J. A. Saralegui, Buenos Aires, Argentina.—p. 513.
Giant Cell Tumor of Middle Third of Shaft of Fibula. B. R. Kirklin, Muncie, Ind., and W. D. Gatch, Indianapolis.—p. 521.
*Barium Sulphate as Protective Material Against Roentgen-Ray Radiation. F. L. Hunt, Washington, D. C.—p. 524.
*Radiation Reaction of Metastatic Squamous Cell Carcinoma in Cervical Lymph Nodes. D. Quick and M. Cutler, New York.—p. 529.
Radiotherapy in Inoperable Carcinoma of Cervix. C. D. Brooks, Detroit.—p. 541.
Evaluation of Treatment of Carcinoma of Cervix with Radium. W. P. Healy, New York.—p. 542.
Suggestions Regarding Radium Treatment of Rectosigmoid Carcinoma. J. T. Case, Battle Creek, Mich.—p. 547.
Statistical Study of Radiation Therapy in 801 Cases of Breast Carcinoma. G. E. Pfahler and B. P. Widmann, Philadelphia.—p. 550.

Cholecystography.—Cholecystography, as a method of diagnosis, Graham et al. state, has been found correct in 96.25 per cent of eighty patients on whom it has been possible to test the diagnosis by means of an operation.

Cholecystography Aid in Diagnosis of Gallbladder Disease.—According to Stewart and Ryan, it is much easier on the patient to administer tetra-iodophenolphthalein by mouth and obtain a gallbladder shadow than to do a pyelography and outline the kidney pelvis; in either case, one ought to be able to make the differentiation.

Iodine Salt in Cholecystography.—Saralegui prefers the iodine salt for cystography because it is twice as opaque to the roentgen ray as the bromine salt, and hence 30 per cent less of the salt needs to be used to get the same results. He uses 0.045 Gm. per kilogram of body weight in 10 per cent solution in freshly distilled water. Results from its use have been very good.

Barium Sulphate and Portland Cement Plaster Protects Against Roentgen-Ray Effects.—Hunt uses a plaster consisting of barium sulphate, 75 per cent; Portland cement, 25 per cent. Layers of plaster not less than 25 mm. thick should be used for 100 kv. of roentgen rays, and not less than 70 mm. when 200 kv. equipment is used. In view of the nonhomogeneous nature of the material, as shown by experiments, these values represent the minimum thickness consistent with safety and, where practical, somewhat thicker layers are recommended.

Radiation Reaction of Lymph Node Carcinoma.—Marked destructive effects on squamous cell carcinoma were obtained by means of intensive irradiation with combined high voltage roentgen rays or radium alone, or in combination. Small doses of radiation which had little or no effect on the squamous cell were found to cause rapid and effective regression of the transitional type of tumor cell. Intensive irradiation with repeated high voltage roentgen rays and radium did not injure the tissues adjacent to the tumor; on the contrary, a stimulating effect on the tumor bed has been observed frequently.

Boston Medical and Surgical Journal

193: *1231-1282 (Dec. 31) 1925*

*Use of Acidified Milk in Infant Feeding. C. K. Johnson, Burlington, Vt.—*p. 1231.*
*Streptococcic Infection of Anterior Angle of Naris. D. W. Montgomery and G. D. Culver, San Francisco.—p. 1232.
Novasurol: Effective Agent in Relieving Ascites Complicating Cirrhosis of Liver. J. G. Anderson, Rochester, Minn.—p. 1234.
*Hyperglycemia (1.71 per Cent) with Coma; Absence of Acetone in Urine. W. P. Argy, Washington, D. C.—p. 1236.
Interstitial Pregnancy: Case. A. S. Troupin, Boston.—p. 1237.
Recurrent Oculomotor Paralysis: Case. R. M. Stetcher, Boston.—p. 1239.
Anencephalic Monster: One of Twins. H. K. Thompson, Boston.—p. 1241.

Acidified Milk in Infant Feeding.—Johnson has obtained good results from the use of milk, 1 pint, acidified with 40 drops of lactic acid and sweetened with 2 tablespoonfuls of Karo syrup. The series treated included cases of pyelitis, osteomyelitis, tuberculosis, meningitis, dysentery and congenital syphilis. Many of these infants were under weight, and more than 50 per cent were under 3 months of age. The average number of calories given was 70 to the pound, seventeen infants receiving as high as 90 calories. Vomiting and diarrhea were seldom seen, and none died of gastro-intestinal disturbance from overfeeding. In 1919, the mortality for marasmic infants was 78 per cent. In 1923, the second year of lactic feeding, the mortality was 26 per cent.

Treatment of Streptococcic Infection of Nares.—Narinary streptococcic infection is treated by Montgomery and Culver by the application of an ointment containing either calomel or mercuric oxide, ½ drachm to the ounce of equal parts of hydrous wool fat and petrolatum. Before applying the ointment, the long, stout vibrissae are clipped and then the nostril is well soaked with warm boric acid solution. After a thorough soaking to soften well all crusts and the epithelium, the ointment may be introduced, care being taken to massage it thoroughly into the angle and into the fossa.

Diabetic Coma Without Ketonuria.—A case is reported by Argy of coma, in a colored man, aged 33, with typical symptoms of diabetes mellitus, existing over a period of six months and ending in death. It was marked by an absence of ketonuria, a high blood sugar concentration (1.71 per cent) and a large amount of acetone in the spinal fluid.

Journal of General Physiology, Baltimore

8: 189-302 (Jan. 4) 1926. Jacques Loeb Memorial Volume

Application of Theory of Quanta to Peripheral Vision. P. Lasareff.—p. 189.
Influence of Electrolytes on Electrophoretic Migration of Bacteria and Yeast Cells. C. E. A. Winslow and E. H. Fleeson, New Haven, Conn.—p. 195.
Influence of Alcohol on Growth of Seedlings. R. Pearl and A. Allen, Baltimore.—p. 215.
Time Relations of Growth. I. Genetic Growth Constants of Animals. S. Brody, Columbia, Mo.—p. 233.
Geotropism and Muscle Tension in Helix. W. H. Cole, Worchester, Mass.—p. 253.
Ferment-Action and Ion Antagonism. R. Höber and A. Schürmeyer, Kiel, Germany.—p. 265.
Formation and Ionization of Compounds of Casein with Alkali. IV. D. M. Greenberg and C. L. A. Schmidt, Berkeley, Calif.—p. 271.
Circulation, Blood Pressure and Respiration of Sharks. E. P. Lyon, Minneapolis.—p. 279.
Effect of Exposure Period and Temperature on Photosensory Process in Ciona. S. Hecht, Naples, Italy.—p. 291.

Michigan State Medical Society Journal, Grand Rapids

25: 1-48 (Jan.) 1926

Evolution of Clinical Teaching in University of Michigan Medical School. V. C. Vaughan, Detroit.—p. 1.
Address on Occasion of Dedication of New Hospital of University of Michigan, Nov. 19, 1925. W. S. Thayer, Baltimore.—p. 4.
Teaching Hospital of University of Michigan. W. J. Mayo, Rochester, Minn.—p. 9.
*Treatment of Uterine Fibromyomata. H. W. Hewitt, Detroit.—p. 13.
Nonoperative Treatment of Cataract. R. J. Sisson, Detroit.—p. 17.
*Radical Cure of Femoral Hernia. R. H. Crissey, Lansing.—p. 18.
Splenic Syndromes. W. J. Mayo, Rochester, Minn.—p. 19.
Medical Policies. F. D. Robertson, Grand Rapids.—p. 24.
*Case of Dextrocardia. L. T. Colvin, Detroit.—p. 12.

Treatment of Uterine Fibromyoma.—Hewitt says that symptom producing fibroids are surgical and should be treated by the surgeon or under his supervision. Roentgen ray or radium may be used in uncomplicated tumors when the only symptom is hemorrhage. Roentgen ray or radium should be used where surgery is contraindicated, as in cases with severe anemia, pulmonary tuberculosis, diabetes, or severe cardiorenal disease. Surgery is the treatment of choice in (*a*) all tumors of the reproductive period; (*b*) all tumors associated with adnexal disease; (*c*) all tumors associated with degeneration or carcinoma, and (*d*) all tumors causing pressure, hemorrhage or other acute symptoms.

Operation for Femoral Hernia.—By a reflection upward of the pectineus fascia, Crissey secures a complete anatomic closure of the femoral canal; that is, by reflecting the iliac fascia upward, making it continuous with fascia transversalis on the anterior abdominal wall.

Dextrocardia; Electrocardiograms.—True inversions cause a change in the electrocardiogram as if the arm leads were interchanged; i. e., an inversion of all waves in lead I, and leads II and III interchanged. The dextroversions affect the electrocardiogram only by the change in cardiac axis varying the height of the waves. The characteristic electrocardiogram of the transpositions is due, therefore, not to the position of the heart, but to the relative positions of the intracardiac cavities. Colvin's case was one of dextroversio cordis, one of about sixty reported.

Missouri State Medical Association Journal, St. Louis

23: 1-43 (Jan.) 1926

Reflections of Internist on Thyroid Problem. C. H. Neilson, St. Louis.—p. 1.
Surgical Management of Goiter Patient. H. S. McKay, St. Louis.—p. 4.
Choice of Anesthetic in Goiter Operations. E. Fischel, St. Louis.—p. 6.
Pathology of Thyroid Hyperplasia. R. L. Thompson, St. Louis.—p. 9.
Radiotherapy of Goiter. E. H. Skinner and I. H. Lockwood, Kansas City.—p. 11.
*Dick Test and Immunization in Scarlet Fever. P. S. Astrowe and D. M. Nigro, Kansas City.—p. 14.
Development and Application of Cholecystography. S. Moore, St. Louis.—p. 17.
Cardiovascular Diseases: Knowledge in First Quarter of Twentieth Century. L. Clendening, Kansas City.—p. 22.
Calcification in Posterior Chamber of Eyeball; Case. W. Spaulding, Poplar Bluff.—p. 26.

Dick Test and Immunization in Scarlet Fever.—Astrowe and Nigro used the Dick test in 573 cases and found it to be of value in differentiating susceptible from immune cases. Negative Dick reactors have not contracted scarlet fever although constantly exposed, while positive Dick reactors have contracted the disease. The authors feel that the test is a safe procedure to employ in routine work; that a negative reaction can be interpreted as indicating immunity to scarlet fever, and that immunization is a safe procedure and is not accompanied by serious reactions.

New Orleans Medical and Surgical Journal

78: *419-482 (Jan.) 1926*

Swift-Ellis Treatment of Syphilis. C. Jamison, New Orleans.—p. 419.
Fear. L V. Lopez, New Orleans.—p. 423.
Sarcoma of Nasopharynx. D. C. Montgomery, Greenville, Miss.—p. 428.
Major Defects of Eye, Ear, Nose and Throat as Seen by Memphis Marine Recruiting Station. R. Harris, Memphis.—p. 434.
Significant Pathology of Scarlet Fever: Prevention. C. W. Duval, New Orleans.—p. 436.
Complications Incident to Operative Treatment of Simple Goiter. A. P. Heineck, Chicago.—p. 440.
*Treatment of Pertussis by Intramuscular Injections of Ether. J. E. Pollock, New Orleans.—p. 450.
Some of Commoner Diseases of Chest in Early Life. N. C. Womack, Jackson, Miss.—p. 453.
Acidosis in Infancy. R. E. De La Houssaye, New Orleans.—p. 456.
Abdominal Surgery Under Local Anesthesia. C. W. Allen, New Orleans.—p. 459.
Two Years Under Sheppard-Towner Act. F. E. Kraker, Washington, D. C.—p. 461.

Ether Injections in Pertussis.—Pollock reports the results *following on* the ether treatment of 107 cases of pertussis. Fifty per cent showed marked improvement after the second injection, or within seventy-two hours; 20 per cent, after the third injection, or in four or five days; 20 per cent required four injections to control the paroxysms, and 10 per cent required from five to seven injections, the largest number of injections made, and a space of twelve days entirely to relieve the condition. Those cases requiring the larger number of injections gave evidence of being mixed infections, probably with the influenza bacillus. Taking the series as a whole, all patients improved before the sixth day of treatment. The injections were given into the buttock every forty-eight hours. The amount injected varied with the age and weight of the patient, the severity of the disease, and the results obtained by the first injection; the dose being increased if the first injection showed no results. The amount given at one injection varied from 0.5 to 2 cc. The largest doses did not cause any untoward effects that could be noted.

New York State Journal of Medicine, New York

26: 1-42 (Jan.) 1926

Uses of Psychotherapy in General Medical Treatment. A. F. Riggs, Stockbridge, Mass.—p. 1.
Mental Hygiene: Relation to General Medicine. C. M. Campbell, Cambridge, Mass.—p. 6.
Value of Blood Transfusions in Postoperative Mastoid Conditions, with Especial Reference to Suspected Sinus Thrombosis. H. Hays, New York.—p. 10.
Surgery of Bladder (Local Anesthesia Technic). W. S. Pugh, New York.—p. 15.
*Trichinosis in Children. J. Aikman, Rochester.—p. 20.

Trichinosis in Children.—Ten cases of trichinosis were found in Rochester from September, 1923, to February, 1924. Aikman says that the disease cannot be ruled out by a low eosinophil count, because this may be present during the acute stage. In many cases the diagnosis may be cleared up by spinal puncture and examination of centrifugalized spinal fluid.

Radiology, St. Paul

6: 1-90 (Jan.) 1926

*Oral Administration of Sodium Tetra-Iodophenolphthalein for Cholecystography. J. Brams, K. A. Meyer and W. A. Brams, Chicago.—p. 1.
*Toxic Goiter: Treatment by Radium and Roentgen Rays. J. T. Stevens, Montclair, N. J.—p. 7.
*Hyperthyroidism. A. E. Barclay, Manchester, Eng.—p. 14.
Roentgenographic Examination of Sphenoid Sinuses. A. Granger, New Orleans.—p. 23.
Rôle of Temperature of Opaque Meal in Filling of Duodenal Cap. R. A. Arens and A. R. Bloom, Chicago.—p. 34.
Roentgen-Ray Therapy of Gastric and Duodenal Ulcers and Other Benign Affections of Gastro-Intestinal Tract. R. Lenk and G. Holzknecht, Vienna.—p. 37.
Radioactive Substances: Therapeutic Uses and Applications; Radiotherapy of Cancer of Uterine Cervix. J. Muir, New York.—p. 41.
Outstanding Physical Considerations in Radium and Roentgen-Ray Therapy. D. C. A. Butts, Philadelphia.—p. 47.
Studies on Suspension Stability of Human Blood. II. Changes of Sedimentation Rate of Erythrocytes in Vitro and in Vivo After Roentgen-Ray Exposure. E. A. Pohle, Ann Arbor, Mich.—p. 55.
Radiograph: Analysis of End-Result. E. C. Jerman, Chicago.—p. 59.
*Anomalous Position of Appendix and Cecum. J. C. Keaton, Albany, Ga.—p. 63.
Esophagobronchial Fistula Resulting from Actinomycosis: Case. P. P. Vinson and C. Sutherland, Rochester, Minn.—p. 63.
Brain Tumor: Response to Radiation. J. S. Derr, Atlanta, Ga.—p. 66.
Early Diagnosis and Localization of Brain Tumors. E. R. Carpenter, Dallas, Texas.—p. 67.

Cholecystography with Tetraiodophthalein Sodium.—One hundred cases were examined by Brams, Meyer and Brams following the oral administration of tetraiodophthalein sodium. Forty-three cases were proved at operation to correspond with the roentgenologic diagnosis, and the remaining fifty-five corroborated the clinical diagnosis. In two surgically proved cases the roentgenologic diagnoses were wrong. All untoward effects have been eliminated by reducing the dose of the salt to about 50 grains.

Radiotherapy of Toxic Goiter.—Stevens asserts that radium and the roentgen rays will probably cure from 66 to 75 per cent of cases of toxic goiter. Patients with large tumors, who present symptoms of pressure, ought to be operated on for quick relief. Chronic abscesses or foci of infection should be eradicated in each case of toxic goiter, no matter what treatment is advised. Skill and good judgment are absolutely necessary in the application of radium and of the roentgen rays; otherwise any good results obtained are apt to be accidental.

Roentgenotherapy in Hyperthyroidism.—Of 300 patients with hyperthyroidism treated by Barclay with roentgen rays, 190 are said to have been cured, 74 improved and 16 not improved; 20 were lost sight of; 11 died of intercurrent disease and 4 died of hyperthyroidism.

Anomalous Position of Cecum and Appendix.—In Keaton's case the cecum was on the left side, with the ascending colon running parallel to the transverse colon. The appendix was clearly outlined.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Experimental Pathology, London

40: 269-328 (Dec.) 1925

*Immediate Effects of Roentgen Rays on Living Animal Tissues. J. G. Stephens and H. Florey.—p. 269.
*Ammonia in Blood of Epileptics. J. M. Luck, G. Thacker and J. Marrack.—p. 276.
Relation Between Extent of Mitosis Seen in Chick Fibroblasts and Concentration of Embryonic Tissue Extracts Present in Tissue Culture Medium. G. P. Wright.—p. 279.
*Plasma Lipoids in Renal Disease. W. R. Daniels.—p. 283.
Use of Trypsinized Casein, Brom-Thymol Blue, Brom-Cresol Purple, Phenol Red and Brilliant-Green for Bacteriologic Nutrient Mediums. M. Kristensen, V. Lester and A. Jurgens.—p. 291.
*Glycolytic Activation by Tumor Extracts. N. Waterman.—p. 300.
*Effect of Deficiency of Vitamin A on Blood Platelet Count in Rats. A. D. Stammers.—p. 312.
*Diastatic Activity in Blood and Urine. C. Reid.—p. 314.

Effect of Roentgen Ray on Tissues.—The possibility of ultraviolet fluorescence excited within the tissues by roentgen rays is considered by Stephens and Florey as a possible mechanism operating in the production of effects by roentgen rays. Contrary to the results obtained by previous workers, no immediate fall of blood pressure or alteration in respiratory rate occurs during prolonged irradiation. It is suggested that previous results are explicable as being due to electrical leakage, and not to the action of roentgen rays. A method for the insertion of abdominal windows is described. By means of these windows, no changes could be observed in the spleen or other abdominal viscera.

Ammonia in Blood in Epilepsy.—Luck and his associates estimated the ammonia in the blood of fifteen nonepileptic and ten epileptic patients. In the first group it varied from 0.02 to 0.37 mg. per hundred cubic centimeters; in the second group, from 0.06 to 0.326 mg. It appears that high blood ammonia may occur at times in epileptic patients, but not necessarily before fits. From the fact that high blood ammonia occurs regularly in starvation, although fits are often much less frequent, it is impossible to consider high blood ammonia as the cause of fits. An increase of blood ammonia is found in ketosis, whether occurring in starvation or in diabetes mellitus.

Plasma Lipoids in Renal Disease.—The results of the examination of the plasma lipoids and plasma proteins in eighteen cases of renal disease are reported by Daniels. The plasma lipoids were increased in five out of seven cases of chronic parenchymatous nephritis examined. In other forms of renal disorder examined, no similar increase of plasma lipoids was found. The average cholesterol and lecithin values were less than those found in normal persons. The average fatty acid value, on the other hand, slightly exceeded that found in the normals. No quantitative relationship appeared to exist between the plasma lipoids and the plasma proteins.

Glycolytic Activation by Tumor Extracts.—Waterman found it possible to increase the glycolytic activity of normal tissue by addition of tumor extract. The activator substance present in tumor is not specific, as it is also contained in embryonic and to a lesser degree in normal tissue. The different behavior of the tumor cell toward sugar utilization seems to depend only on quantitative differences, caused by the presence of a much larger amount of activator. Regarding the nature of the activator, some properties seem to point to an analogy with an insulin-like substance.

Effect of Vitamin Deficiency on Blood Platelet Count.—Stammers found that no significant changes in the platelet count takes place in experiment animals as a result of vitamin deficiency.

Diastatic Activity in Blood and Urine.—In Reid's opinion it is advisable to estimate the blood diastatic activity in all cases in which the urine diastatic activity is being examined, and especially in those cases which give a urinary diastase figure toward the lower limits of normality. It would appear that the diastatic concentration factor would serve as an additional confirmatory test to MacLean's urea concentration test, as the figures obtained for both tests in healthy persons and pathologic cases were in general agreement.

Edinburgh Medical Journal

33: 1-48 (Jan.) 1926

Comradeship in Science. J. Purves-Stewart.—p. 1.
Carcinoma of Colon: Incidence, Treatment and End-Results. K. P. Brown.—p. 10.
Action of Colloidal Gum Benzoin on Syphilitic and Nonsyphilitic Human Serums. C. I. B. Voge.—p. 19.
*Estimation of Calcium in Blood and Urine. J. S. Sharpe.—p. 27.
*Treatment for Cutaneous Papilloma. N. R. Houston.—p. 31.

Estimating Calcium in Blood and Urine.—The method described by Sharpe depends on the formation of a cloud by the addition of ammonium oxalate to a protein free calcium solution in glycerin, and a comparison of this with a similar cloud in a standard solution by means of a simple nephelometer. It may be applied to solutions of calcium of from 10 to 15 mg. per hundred cubic centimeters and is accurate to within 0.5 mg. per hundred cubic centimeters.

Arsenic in Treatment of Skin Papilloma.—*In sixteen cases* Houston gave his patients instructions to swab the warts lightly with a 1 per cent solution of liquor arsenicalis (B. P.) three times daily. Some patients required longer treatment than others. If marked local reaction occurred, treatment was suspended until after its subsidence. The reaction is said to have been not nearly so drastic as that caused by the acid and alkali caustics commonly used. It has the added benefits of being easily applied, having no detrimental effect on the surrounding skin and producing a minimum of scar tissue.

Indian Medical Gazette, Calcutta

60: 559-608 (Dec.) 1925

Plea for Research in Treatment of Squint. H. Smith.—p. 559.
Treatment of Incisional Sinuses. G. Gallilay.—p. 559.
Pelvic Measurements in Indian Women. G. Stapleton.—p. 560.
Familial Treatment of Insane. O. Berkeley-Hill.—p. 562.
Abuse of Emetine. G. R. McRobert.—p. 563.
Blood Sugar and Sugar Tolerance. S. L. Bhatia.—p. 565.
Bacteriologic Study of Stools of 746 Clinical Cholera Cases in Calcutta. G. C. Maitra and J. B. Basu.—p. 570.
Organic Antimony Compound, Aminostiburea, for Treatment of Kala-Azar. L. E. Napier.—p. 571.
Latrines and Hookworm Incidence: Diagnosis by Clayton-Lane Centrifuge. R. Senior-White.—p. 572.
Case of Perineal Fistula. B. R. Garg.—p. 575.
*Enlarged Wandering Spleen Mistaken for Ovarian Tumor. J. N. Sen.—p. 576.
*Case of Multiple Neurofibromas. E. B. Carr.—p. 577.
Multiple Soft Fibromas of Face. G. Panja.—p. 578.
Cure for Leukoderma. P. B. Rau.—p. 578.
*Unusual Case of Malaria. N. Ghosh.—p. 579.
Pneumonia and Cellulitis Treated with Iodine Intravenously. S. N. Datta.—p. 579.
Cases of Acute Yellow Atrophy of Liver. Y. S. Row.—p. 580.
Up-Going Toe. M. S. H. Mody.—p. 581.
Syphilitic Dyspnea Simulating Asthmatic Fit. M. G. R. Row.—p. 581.
Case of Malarial Prostatitis with Reflex Retention of Urine. S. L. Chopra.—p. 582.
*Case of Resuscitation After Cessation of Vital Functions for Over Fifteen Minutes. N. C. Kapur.—p. 582.
Case of Bullet Wound of Chest Followed by Pleurisy with Effusion. R. Labhaya.—p. 583.
Case of Transverse Presentation. M. H. Jhaveri.—p. 583.
Intramuscular Injection of Urea Stibamine. S. Kundu.—p. 583.
Case of Pernicious Malaria Treated with Quinine Intravenously. K. N. Chatterji.—p. 584.

Enlarged Wandering Spleen.—The spleen in Sen's case weighed 4 pounds, 12 ounces (2.15 Kg.). It occupied the whole of the lower abdomen from 2 inches (5 cm.) above the umbilicus down to the pelvis, occupying more of the right side of the abdomen. It had been enlarging for two years. Pain was the only symptom complained of and is believed to have probably been due to stretching of the capsule of the spleen due to the sudden enlargement of the organ.

Multiple Neurofibromas.—Carr's patient had numerous spherical fibrous growths of the skin all over the body, varying in size from a pea to an olive, but one of these growths, on the right breast, grew so rapidly that the breast became elephantoid in size and it was for this that the woman sought treatment. Unsupported, the breast reached down to the knee.

Malaria with Unusual Symptomatology.—The points of interest in Ghosh's case were: sudden onset with unconsciousness and convulsions; absence of fever and no enlargement of the spleen at the onset; rise of temperature; recovery of consciousness after first dose of quinine, intravenously; presence of fever for one day only; presence of parasites in peripheral blood films even after eight days' administration of quinine.

Resuscitation After Fifteen Minutes' Cessation of Vital Functions.—Flicking the chest with a cold wet towel caused Kapur's patient to resume breathing after fifteen minutes of complete cessation of respiration, absence of heart sounds and pulse at the wrist.

Journal of Hygiene, London

24: 241-446 (Dec.) 1925

*Bacillus Bifidus: Isolation from Intestine of Infants. R. Cruickshank.—p. 241.
Immunology and Malignant Disease. A. Eastwood.—p. 255.
Monthly Birth Rate in Netherlands. J. Sanders.—p. 274.
*Has Mortality from Cancer Changed in Copenhagen? P. Heiberg.—p. 291.
Rôle of Twort-d'Herelle Phenomenon in Epidemic Spread of Mouse Typhoid. W. W. C. Topley and J. Wilson.—p. 295.
*Principles of Immunity Applied to Protective Inoculation Against Diphtheria. A. T. Glenny.—p. 301.
*Endemic Goiter in New Zealand: Relation to Soil Iodine. C. E. Hercus, W. N. Benson and C. L. Carter.—p. 321.
Topographic Incidence of Cancer in Yorkshire and Midland Counties of England, Including Fenland. M. Young.—p. 403.
Influence of Different Methods of Cleansing Dairy Utensils on Bacterial Content of Churns and Keeping Properties of Milk. F. Procter and W. A. Hoy.—p. 419.
Measles Prophylaxis. W. S. C. Copeman.—p. 427.

Bacillus Bifidus in Intestine of Infants.—Cruickshank says that the predominance of *Bacillus bifidus* in the intestinal flora of breast fed infants appears to be closely related to the high degree of acidity of the feces of these infants. It is probable that the predominance of *B. bifidus* over other organisms is an important factor in preserving a healthy condition of the intestinal tract in the breast fed infant.

Cancer Mortality in Copenhagen.—The main result accruing from Heiberg's investigations is that during the twenty years in which the newest, and consequently the best, Copenhagen material was available, the number of deaths from cancer of the stomach in relation to the population in the age class 55-64 years proved to be exactly the same from year to year.

Immunity Against Diphtheria.—Glenny believes that men and horses, and possibly other animals, are repeatedly infected to a slight extent with diphtheria, and that these small transient infections result in the absorption of minute doses of toxin. Therefore, if natural immunity in man and in animals is caused by repeated stimulation with small doses of toxin produced by small transient infections, then in any chosen group of children subject to the same general conditions, the number who are already Schick negative must be an index of the number and extent of infection and stimulation.

Endemic Goiter in New Zealand.—The hypothesis that goiter is caused by a deficiency of iodine in the diet apparently is sustained by the investigation made by Hercus, Benson and Carter. These investigations are based on the examination of more than 80,000 children and 135,000 recruits. The amount of iodine has been determined in nearly 500 samples of soil obtained from all parts of New Zealand, together with samples of a number of waters from mineral springs and town supplies. Approximately, the incidence of the disease is inversely proportional to the amount of iodine in the soil. Further, where, though the incidence of goiter is low, the amount of iodine in the soil is abnormally low, it is present in the water supply in greater amounts than usual, and the daily intake of iodine among the inhabitants of such a district is thereby maintained. Regions in which the average amount of soil iodine is low are also those in which goiter is most frequently seen among the domestic animals. A study has been made of the prophylactic treatment of school children in New Zealand by administering small amounts of iodine weekly. This has had fairly good results.

Archives des Maladies de l'App. Digestif, Paris

15: 871-990 (Nov.) 1925

- *Pancreas Function Test. M. Labbé et al.—p. 871.
- Congenital and Acute Periduodenitis. P. Duval and J. C. Roux.—p. 886.
- Periduodenitis and Appendicitis. A. Basset.—p. 893.
- Insufficiency of the Gallbladder. M. Chiray and M. I. Pavel.—p. 921.
- Diverticulum of Lesser Curvature of the Stomach. C. Billaud.—p. 937.
- *Bismuth Treatment of Gastric Ulcer. F. Moutier and P. Porcher.—p. 944.
- *Vaccination Treatment of Infected Ulcer. Roux and Girault.—p. 949.

Modified Katsch Method for Pancreas Function Test.—Katsch injects ether immediately after the duodenal tube is introduced. Labbé, Nepveux and Adlersberg point out that with this method the pancreatic juice may be mixed with bile, since ether not only stimulates the pancreatic secretion but induces contraction of the gallbladder. They empty the gallbladder beforehand, with one, two or three injections of magnesium sulphate, before they introduce the ether. About 4 cc. of ether is injected slowly, and then the pancreatic juice, accumulating in the duodenum, is aspirated after an interval of from five to twenty minutes. The pancreatic juice thus obtained is completely free from bile. The findings are recorded from eighteen cases. The test showed no changes of the pancreatic function in mild digestive disturbances. The pancreatic secretion appeared decreased in three of seven cases of diabetes; the fermentation property reduced in five. The amount of the pancreatic juice was always notably decreased in lithiasis and with destructive lesions. The test revealed even slight insufficiency of the pancreas in diabetes, and certain functional or reflex disturbances which escaped detection by other methods of examination.

Gastric Ulcer with Diverticulum; Recovery Under Bismuth.—Moutier and Porcher report a case of ulcer of the lesser curvature, with a large diverticulum, in a man, aged 52. A dose of 10 Gm. of bismuth was given, three times a day, with milk and starchy food. Alkalines were allowed only to relieve pain. In two months the pains subsided completely; a month later (under 20 Gm. daily) there were no signs of the diverticulum on roentgen ray examination. The bismuth was continued (10 Gm. a day) for two months longer, and the patient was apparently cured. He is an electrician and bed rest had been imposed for only one day.

Vaccine in Treatment of Septic Ulcer.—Roux and Girault emphasize that infection frequently complicates a gastric ulcer, and may induce recurrence of the pains. They describe two cases of ulcer in which vaccination treatment was applied to combat the infection. In one the patient still had recurring hemorrhages after a gastro-enterostomy. Intradermal tests showed a positive reaction to the enterococcus. He was given two ampules of enterococcus bouillon vaccine by mouth, every second day; the vaccine was also injected subcutaneously. In a month the intradermal reaction became negative, and recovery seemed complete. No hemorrhages have occurred during the year since, although the man is actively at work. In another case the intradermal test was positive for the streptococcus. A specific vaccine was given as in the first case, twice a day, two hours before meals; simultaneously 0.5 cc. or 1 cc. of an emulsion containing a thousand millions of bacilli was injected. The pain and paroxysms entirely subsided in ten weeks. The patient is still under observation.

Archives des Maladies du Cœur, etc., Paris

18: 689-752 (Nov.) 1925

- *Intracardiac Pressure and the Heart Rhythm. L. Bard.—p. 689.
- Infarction of the Myocardium; Two Cases. F. A. Willius.—p. 712.
- The Nerves in Ectopic Heart Contractions. Danielopolu and Proca.—p. 719.

The Intracardiac Pressure.—Bard discusses the share of the intracardiac pressure in the mechanism of the rhythm. He analyzes in particular the influence on paroxysmal tachycardia of the reflexes originating from changes in the tension.

Bulletin de l'Académie Royale de Médecine, Brussels

5: 487-535 (Sept. 26) 1925

- *Mechanism of the Heart Rhythm. Henrijean.—p. 511.
- Fate of Free Bone Autografts. J. Delchef.—p. 531.

The Causes of the Heart Rhythm.—Henrijean's years of experimental research and the inadequacy of the theories accepted at present in explanation of the regularity of the heart beat have convinced him that electric currents, formed in the heart, are what excites the heart muscle, thus generating the impulse and the contraction. Just as the sense organs respond only to waves of a certain length, the muscles respond to electric stimuli only when they are of a definite kind and frequency. The electrocardiogram of a heart that has stopped beating is practically as regular as with the heart beating normally. The rhythmicity is thus a property of the pacemaker, not of the muscle. The smallest fragment of auricle tissue still connected with the Keith-Flack node keeps up its rhythmic beat. When cut away from the node, the contractions keep up, but they lose their rhythmic regularity. He compares the heart to a set of electric condensers. The electric phenomena originate in the nodes and the Purkinje fibers. They are the result of special physicochemical processes, involving electrolytes, capillarity and surface tension. The discharge from the Keith-Flack "electric condenser" occurs with constant regularity, but the discharge from the Tawara "condenser" may be more or less variable; only the P wave keeps regular. The stimulus for the heart forms at all points of the *apparat de commande* but the nodes form and store up the reserves of energy, and they influence each other. The nodes seem to differ in their sensitiveness to calcium and potassium. The P wave disappears first; this leaves the Tawara as the last point to die in the dying heart. The next question is whether some substance in the nodes or some special force is responsible for their action.

Comptes Rendus de la Société de Biologie, Paris

93: *1337-1400 (Dec. 4) 1925.* Partial Index

- Amino Acids in Effusions. M. Loeper et al.—p. 1348.
- Sulphur in Effusions. M. Loeper et al.—p. 1350.
- *Pulmonary Spirochetosis. P. Ribierre and Kermorgant.—p. 1351.
- *Action of Organ Extracts on Infusoria. A. Lwoff.—p. 1352.
- *Affinity of Radium for Cancer. A. Lacassagne and R. Ferroux.—p. 1356.
- Action of Hydroxylamine on the Blood Pigment. J. Roche.—p. 1377.
- *The Bacteriophage. H. Stassano and A. C. de Beaufort.—p. 1380.
- Action of Heating on Bacilli. H. Stassano.—p. 1385.
- *Ultraviolet Rays and Tissue Cultures. S. Kiær.—p. 1389.

Spirochete Isolated from the Sputum.—Ribierre and Kermorgant found among other germs a species of spirochete in the sputum of a man with repeated hemoptysis and hydropneumothorax, but no tubercle bacilli. The spirochete did not correspond to any of the known species. Cultures of this spirochete injected in rabbits induced pulmonary lesions resembling those in the patient. Under arsenical treatment, the bloody expectoration disappeared and the general condition improved. This coincided with the vanishing of the spirochete from the sputum. Presence of a specific agglutinin and precipitin in the patient's serum confirmed the part of the spirochete in the disease.

Influence of Organ Extracts on Infusoria.—Lwoff added a drop of infusoria culture to peptone mediums containing extracts of different glands and tissues. The growth of the infusoria was promoted. The results were the same with fresh extracts as with heated extracts in which the hormones had been destroyed.

No Special Affinity of Radium for Cancer Tissue.—Lacassagne and Ferroux repeated injections of radium emanation in rats with an induced fibrosarcoma. Radioactive elements were refound in the kidney and liver; considerably less in the tumor tissue.

Action of Sodium Citrate and of Ether on the Bacteriophage.—Stassano and de Beaufort mixed cultures of Shiga bacillus with the specific bacteriophage and sodium citrate. There was evidence that the drug, while not affecting the Shiga bacillus, exerted an inhibiting action on the lysis. With Shiga bacilli treated with ether for half an hour before exposure to the bacteriophage, the lytic action of the latter became enhanced. With prolonged treatment of the bacilli with ether (over three hours), the bacilli were dead and the bacteriophage could not act on them. These tests, they say, confirm that the lytic agent does not respond to ether like a living organism.

Action of Ultraviolet Rays on Tissue Cultures.—Kiær experimented on cultures of connective tissue. The growth of the cells appeared impaired under exposure to ultraviolet rays for eight or ten minutes. The cells were killed under a tenfold or fifteen-fold dose. He found further that the ultraviolet rays may stimulate the rhythmic contractions of a pulsating scrap of myocardium tissue.

Paris Médical

59: 1-36 (Jan. 2) 1926

Tuberculosis in 1926. P. Lereboullet and M. Lelong.—p. 1.
Significance of Koch's Phenomenon. Bezançon and Philibert.—p. 11.
*Treatment of Tuberculous Parturients. E. Sergent.—p. 17.
Variations of the Tubercle Bacillus. F. Arloing et al.—p. 22.
*Traumatic Pleurisy. L. Bernard et al.—p. 29.
*Tuberculosis in School Children. R. Debré and F. Cordey.—p. 31.

Treatment of Pulmonary Tuberculosis After Childbirth.—Sergent's method is based on Bar's theory that a sudden decompression of the lungs, following the sinking of the uterus after delivery, may arouse tuberculous infection. In order to prevent this, he suggests to induce a partial bilateral pneumothorax. It should be applied from a few hours to thirty-six hours after delivery, simultaneously on both sides, or in two days. In five women with a progressing pulmonary process, this treatment gave favorable results in three; two of the women died four and seven weeks after delivery. Bilateral pneumothorax was induced also in four women with an old history of tuberculosis. One of them died from meningitis five months later; three are still in good condition up to ten and fifteen months. The pneumothorax may be later restricted to one side.

Pleurisy with Adhesions During Treatment by Induced Pneumothorax.—Bernard, Baron and Valtis' two patients with an old therapeutic pneumothorax developed an adhesive pleurisy after trauma of the thorax. In one case in which the insufflation was attempted anew, it proved impossible to induce the pneumothorax. In the other patient, who was only slightly hurt, the insufflation was renewed eight days after the accident, and he seems to be on the road to recovery. In order to avert adhesion of the pleura, insufflation should be applied soon after the trauma.

Tuberculosis in School Children.—Debré and Cordey examined 203 children, aged from 5 to 15, with chronic tuberculosis. Almost all of them had been exposed to prolonged contact with a tuberculous person at home. The localization of tuberculosis in joints and bones occurred sooner than in the lung, affecting children with a shorter span of allergy. Prolonged contact with a source of infection generates the slow, chronic type of the disease from the first.

Revue Franç. de Gynécologie et d'Obstét., Paris

20: 649-672 (Nov. 25) 1925

The Giant Cell of Elephantiasis of the Vulva. A. A. Babès.—p. 649.
Torsion of Ovarian Cyst After Childbirth. A. van Cauwenberghe.—p. 657.

20: 673-688 (Dec. 10) 1925

*Radium in Treatment of Diabetes. M. Seiichiro.—p. 673.
Gravid Uterus in Retroversion Impacted in Pelvis; Laparotomy. R. Bonneau.—p. 678.

Action of Radium on Diabetes Mellitus.—Seiichiro treated cancer of the uterine cervix with radium in a diabetic woman. He applied 50 mg. of radium bromid to the cervix for over twenty hours. After two irradiations (four days interval), the sugar had disappeared from the urine by the fourth day. After nine applications of the radium the cancer process appeared to be checked, and the patient had gained in weight. The sugar test continued to be negative, although sugar was added to the food. Under preceding insulin treatment the condition of the patient had only slightly improved. Seiichiro believes that the radium may have acted directly on the organs controlling the sugar metabolism, or the action may have been indirect, by way of the internal secretion of the ovary.

Schweizerische medizinische Wochenschrift, Basel

56: 1-24 (Jan. 9) 1926

The Blood as a Secretion. H. Sahli.—p. 1.
*Treatment of Appendicitis. G. Hotz.—p. 8.
Obstetric Examination. H. Guggisberg.—p. 11.
Repeated Micro-Embolism in Endocarditis. H. U. Gloor and M. Gilbert.—p. 17.
Medicolegal Aspects of Abortion. A. Labhardt.—p. 20.

Treatment of Appendicitis.—Hotz' statistics show the low mortality of patients operated on the first day (1.2 per cent) or the second day (2.4 per cent) or in the interval, and the high mortality (9.6 per cent) between the seventh to the tenth days. Only seventy-two patients were treated in the last five years by internal measures alone—partly because the disease was light, partly because of complications and weakness of the patients. Only two of these (2.7 per cent) died. In spite of this, he pleads for early operation.

Revista Medico-Cirurgica do Brazil, Rio de Janeiro

33: 581-644 (Nov.) 1925

The Biologic Applications of the *p*H Symbol. H. Delaunay.—p. 581.
The Public Health Service in Argentina. Araoz Alfaro.—p. 608.
Recent Progress in Tropical Medicine and Hygiene. P. Mühlens.—p. 617.
*Improved Tuberculin Skin Test. A. Ferrari.—p. 627.

Improved Tuberculin Skin Test.—Ferrari extols the ease and simplicity of what he calls his new dermoreaction for detection of tuberculosis. He pricks the skin in the same way as for tattooing. A few droplets of blood ooze out as the skin is stretched. At another point he deposits a drop of tuberculin, and repeats the pricks through it. Two minutes later he wipes off the tuberculin, and tells the patient to return in five days. The positive reaction is striking; the reddish spot may be visible for several days. When it subsides, it leaves an area of pigmentation that may linger for several weeks.

Revista de la Soc. Arg. de Biología, Buenos Aires

1: 335-496 (Sept.) 1925

*Chagas' Disease. R. L. Dios et al.—p. 335.
Gage for Potency of Antitoxin. Pico and Ferrari.—p. 341.
Action of Insulin on *p*H of Rabbit Blood. R. Wernicke et al.—p. 351.
*The Botelho Reaction. G. Fichera.—p. 356.
Action of Insulin on Grafted Cancers. N. Piccaluga and S. Gioffari.—p. 359.
Mechanism of Action of Snake Venom on Striped Muscle. B. A. Houssay and P. Mazzocco.—p. 370.
Primary Cancer of Common Bile Duct. D. Mosto.—p. 389.
Malformations and Blastomas. J. Llambias and J. M. Jorge.—p. 396.
Discharge of Epinephrine Induced by Asphyxia, etc. B. A. Houssay and E. A. Molinelli.—p. 402; 426; 441.

Chagas' Disease in Argentina.—Dios and his co-workers report the third case of American trypanosomiasis discovered to date in Argentina, all in boys.

The Botelho Reaction.—Fichera states that in tests of 350 serums the reaction was positive in 80 per cent of the cancer patients and in 25 per cent of the nonmalignant cases. Tests on rabbits and guinea-pigs, and in 182 patients, with comparison of the refraction and viscosity findings, confirmed his assumption that the reaction is merely the result of an excess of serum globulins, an upset in the balance between the plasma and the proteins. The reaction therefore merely indicates resorption of the products of cell disintegration.

Revista de la Soc. Arg. de Urol., Buenos Aires

1: 139-164 (Oct.) 1925

*Enuresis in Children. A. Serantes and L. A. Montes.—p. 139.
Actinomycosis or Tuberculosis of the Penis. L. E. Pagliere.—p. 143.
Calculus in Pelvic Ureter Removed by Judd's Extraperitoneal Incision. E. Castaño.—p. 151.
Function Tests for Polycystic Kidney. A. Martin Lopez.—p. 157.
*Inclusion of Penis in Cicatricial Tissue. J. Salleras.—p. 160.

Essential Incontinence of Urine.—The boy of 15 had never been able to control the evacuation of the bladder except by frequent micturition, and at night the enuresis was complete. No treatment had proved effectual until a perineal injection of 30 c.c. of physiologic saline solution, repeated the following week on the other side, cured the enuresis at one stroke. The patient has been normally continent since the first injection. Marion's technic was followed; the injections were quite painful. Salleras has reported a case of complete recovery after a single perineal injection of 20 cc. of the solution in a man of 25 with nocturnal enuresis from childhood. In Ortiz' two cases, no effect was apparent.

Inclusion of Penis in Cicatricial Tissue.—The man of 32 had been having a venereal granuloma with multiple suppurating foci for three years before it was arrested with antimony and potassium tartrate. As it healed, the cicatricial tissue completely covered the penis; the urine was voided through an opening in the pubis, and there were fistulas in the perineum. Salleras describes with illustrations the plastic operation which released the penis and provided a meatus in the penoscrotal angle.

Semana Médica, Buenos Aires

2: 1273-1340 (Nov. 19) 1925

Endothelioma of the Ethmoidal Sinus. J. Layera.—p. 1273.
Present Status of Sanocrysin. R. A. Vaccarezza.—p. 1275.
Vaccines in Ophthalmology. J. Lijo Pavia.—p. 1292.
*Mikulicz' Syndrome with Sarcoma. J. G. Fernández et al.—p. 1299.
Estimation of Thyroid Activity. P. Heredia.—p. 1307.
Insulin in Toxicosis in Infants. E. Foster.—p. 1315.
Social Diseases. L. Bard.—p. 1316.
The Pain in Rheumatism. S. Libarona Brian.—p. 1322.
Hematology of Amebic Hepatitis. J. J. Viton.—p. 1337.

The Mikulicz Syndrome in a Child with Sarcoma and Leukemia.—The disease ran a rapid, malignant course, involving the lacrimal and salivary glands and the thymus, invading the mediastinum in the form of a large lymphosarcoma. The blood showed intense leukemia, and the boy, aged 6½, died two months after the first appreciable symptoms. The true Mikulicz disease is a slow, torpid process, generally affecting persons in the twenties.

Medizinische Klinik, Berlin

22: 1-42 (Jan. 2) 1926

Constitutional Asthma. R. Schmidt.—p. 1. C'td.
Pyelitis. L. Casper.—p. 4.
**Gastric Ulcer. C. Hirsch.—p. 6.*
Treatment of Syphilis. Jesionek and Others.—p. 8. C'td.
*Heart with Hard Shell. H. Schlesinger.—p. 11.
*Congenital Syphilis. R. Fischl.—p. 15.
Roentgenography of the Gallbladder. W. Baetzner.—p. 18.
*Treatment of Itching. J. K. Mayr.—p. 19.
*Septic Infections. E. Singer.—p. 20.
Inability to do Professional Work. H. Engel.—p. 24.
Physical Therapy. A. Laqueur.—p. 27.
Four Pathologists of the Prague German University. R. Fischl.—p. 39.

Gastric Ulcer.—Hirsch admits a nervous influence on the chronicity of gastric ulcers. The primary erosion has different causes; for instance, it is frequent in the rennet stomach of calves who get coarse fodder before the other portions of the stomach are well developed.

"Heart en Cuirasse."—Schlesinger reports a case of incrustation with lime of almost the whole pericardium. Such patients are usually free from symptoms for a long time, and are capable of even extraordinary efforts. He believes that the lime "armor" protects the heart to a certain extent.

Congenital Syphilis.—Fischl warns against overestimating the reliability of the Wassermann reaction. He has seen a positive reaction in well developed infants who do not show any symptoms for months, and whose parents are negative. On the other hand, he observed infection of a wetnurse by an apparently healthy and Wassermann negative child of an apparently healthy and Wassermann negative mother. Therefore he repeats the test three times before giving the child to a wetnurse or vice versa. Spirochetes may be found frequently —best by the dark field illumination—in the conjunctiva and in pustules. Yet he warns against provocation of cantharidin blisters, as they may turn into syphilitic ulcers.

Treatment of Itching.—Mayr had observed with Moncorps that injections of a spleen extract inhibit eosinophilia in animals. He reports some favorable results in itching affections connected with eosinophilia.

Septic Infections.—Singer investigated the phenomena of infection with anthrax bacilli after blocking either the reticulo-endothelial cells by intravenous injection, or the histiocytes of the connective tissue by subcutaneous injections of aggressins. He concludes that the former play a more important rôle in prevention of infection. The loss of chromaffinity of the suprarenals was striking, but this indicates in his opinion only a secondary action of that system.

Monatsschrift für Kinderheilkunde, Leipzig

31: 193-490 (Jan.) 1926. The Pediatric Congress

*Orthopedics and Pediatrics. H. Spitzy.—p. 193.
*Hemoglobin Resistance in Infants. Bischoff.—p. 228.
Clinical Anaphylaxis. A. Uffenheimer.—p. 232.
Endocrine Relations Between Mother and Fetus. R. Neurath.—p. 240.
Gas and Iodine Metabolism in Puberty Goiter. Eckstein.—p. 242.
*Phosphate Metabolism. F. Demuth.—p. 252.
Fever Metabolism. O. Beck.—p. 258.
*Decomposition of Fat in Starvation. A. Frank.—p. 265.
*Immunization Against Measles with "Cultures." S. Meyer.—p. 270.
Prevention of Measles. E. Nobel.—p. 275.
Roentgen Injury of Fetus. E. Deutsch.—p. 284.
Leukocyte Picture and Infection. E. Stettner.—p. 287.
Treatment of Meningitis. A. Reiche.—p. 295.
Action of Digitalis. B. Samet and O. Tezner.—p. 300.
*The Water Metabolism. O. Koref and H. Mautner.—p. 303.
Blood Transfusion in Children. Opitz.—p. 306.
Blood Transfusion. P. Morawitz.—p. 320.
Surgery and Intubation in Croup. J. von Bókay.—p. 333.
*The Characteristic Features of Puberty. A. Biedl.—p. 347.
Ossification of the Skull in the New-Born. H. Abels.—p. 366.
**Changes in Susceptibility to Tuberculin. K. Ossoinig.—p. 371.*
*Fluctuations in the Predisposition. F. Hamburger.—p. 376.
*Metabolism in Pylorospasm. H. Vollmer.—p. 380.
Surgical Indications in Stenosis of the Pylorus. J. Bauer.—p. 384.
Occult Hydrocephalus. H. Koeppe.—p. 390.
*Food and Intestinal Secretion. Rosenbaum.—p. 396.
*Cholera Infantum. A. Bratusch Marrain.—p. 399.
Colon Bacillus Dyspepsia. K. Weise.—p. 404.
Biochemistry of Casein. H. Meyer.—p. 410.
Serotherapy of Bronchopneumonia. R. Kochmann.—p. 413.
*Histology of the Pancreas. W. Dreifuss.—p. 415.
Pediatrics in Study of Heredity. S. Weiss.—p. 418.
Dispensary for Children with Congenital Syphilis. I. Hescheles.—p. 424.
Insulin Treatment of Diabetes in Children. Priesel and Wagner.—p. 428.
Hypervitaminosis. K. Scheer.—p. 430.
Rickets in Rats. E. Maurer.—p. 437.
Entropium in the New-Born. A. Elschnig.—p. 439.
Urines Containing Bacteria. E. Freudenberg.—p. 441.
Pyuria of Infants. F. Strunz.—p. 443.
The Individualism of Pathogenic Bacteria. K. Hofmeier.—p. 446.
Intestinal Bacteria. Stransky and Trias.—p. 451. Idem. Trias.—p. 457.
Health Certificate for School Children. Flachs.—p. 460.
Congenital Syphilis and Irritation. R. Fischl.—p. 463.
*Anemia in Congenital Syphilis. M. Frank.—p. 470.
*The Incubation of Tuberculosis. B. Epstein.—p. 475.
The Intermediate Water Metabolism in Infants. W. Stern.—p. 484.
The Chlorides of Tissue Fluid in Infants. E. Slawik.—p. 486.

Orthopedics and Pediatrics.—Spitzy deals with the various indications for orthopedic treatment. Every surgical intervention must aim to obtain a simpler mechanism which the remaining muscles are able to manage. The art of the surgeon consists in the correct estimate as to how much simplification is needed. The after-treatment is more important than the intervention. The previous mistake of devoting the attention exclusively to the diseased region has been replaced by an overestimation of phototherapy. The local treatment and the proper food must not be overlooked. The children have to be carried into a shaded place before meals, otherwise they lose their appetite.

Hemoglobin Resistance in Infants.—Bischoff recorded monthly the decrease of hemoglobin resistance in eighty-three infants. It is sufficiently constant to serve as a gage to determine within one month the age of an infant or the term at which a premature infant was born, if its age is known. He mixes 5 cc. of a 1 per cent aqueous solution of blood of a 100 per cent hemoglobin content (Sahli) with 1 cc. of a one-fourth normal sodium hydroxid solution, and records with the spectroscope the time of disappearance of the oxyhemoglobin. It averages 154 minutes in the umbilical blood and in the first month; 109 minutes in the second; 66 in the third; 23 in the fourth; 4.5 in the fifth; nearly 3 minutes in the sixth; 92 seconds in the seventh, and 74 seconds in the eighth month. It is higher with anacidity and especially with pernicious anemia.

Phosphate Metabolism.—Demuth found a phosphatase in all the organs and fluids examined with the exception of the gastric juice. The optimum of its action varies according to the source—probably because of admixtures. Only the muscle phosphatase has its optimum in the zone of the reaction of tissues. Rachitic cartilage displays a stronger splitting property than the healthy control, and has a second optimum of hydrogen ion concentration. Normal cerebrospinal fluid decomposes only slightly sodium hexosediphosphate. The splitting is strong with meningitic fluids.

Decomposition of Fat in Starvation.—Frank compared the fat from rats that had been starved to death after being fed with a diet either rich in carbohydrates or in fat or on a mixed diet. Contrary to expectation, the iodine number was lower in the rat which had been fed with butter. This indicates that the decomposition even of fat containing palmitic and stearic acid goes by way of the unsaturated fat acids, and is not restricted exclusively to beta oxidation.

Caronia's "Cultures" and Immunization Against Measles.—Meyer injected thirteen children partly with Caronia's original alleged measles vaccine, partly with her own vaccine, prepared in the same way. These children were exposed to measles for two to fifteen days after the third preventive inoculation. All of them contracted the disease. The symptoms were typical, and by no means less severe than in other children. With regard to Caronia's claim of production of measles by the cultures, she asked Sindoni to inoculate two children with the original cultures, and did the same with her own cultures. No symptoms appeared, but three of these four children contracted measles later spontaneously.

Pituitary, Insulin and the Water Metabolism.—Koref and Mautner found that a preliminary injection of insulin inhibits completely the antidiuretic action of pituitary extracts. The diuresis sets in at the time of the hypoglycemia. The pituitary extract enhances the secretion into the gastro-intestinal tract and increases its tonus. Insulin inhibits the secretion and accelerates the resorption from the intestinal tract.

Characterization of Puberty.—Biedl regards puberty from the viewpoint of the prevalence of the different endocrine glands at various ages. The interrenal system and the gonads are predominant in the new-born. The thyroid and parathyroids have little influence. The low function of the latter is evident from the spasmophilic tendency of infants; the hypofunction of the thyroid from the low metabolism in the first three months. The relative height of the metabolism of adults is attained in the sixth month, when a further increase sets in which reaches its maximum (40-50 per cent above the relative oxygen intake of adults) in the beginning of the second year. The thyroid keeps the lead throughout the second year. These changes are in inverse proportion to the relative gain in weight. The pineal gland and the anterior lobe of the pituitary begin to assert themselves—the latter especially in the first stretching of the growth in length. The succeeding relative stability of the endocrine system is interrupted by the first phase of puberty—pubescence. The sudden increase in oxygen metabolism, the second extension in length, and the frequent goiter indicate new demands on the thyroid. The growth is partly conditioned by the anterior pituitary, and both glands promote the development of the gonads. The latter gradually check the growth. In eunuchs, this is the only stage of puberty, and the growth in length is excessive. The nervous system changes: at first the vegetative system predominates, while the volitional apparatus gets lazy. A large variety of symptoms indicating a changed tonus of the sympathetic and parasympathetic arises; the most constant herald of approaching puberty is a marked respiratory arrhythmia and changes of the hair of the scalp. Erotic, although not yet sexual, tendencies appear. The involution of the thymus occurs here. Adolescence (the second phase of puberty) indicates the fight of the gonads for the predominant position. The dominance of the thyroid over the metabolism yields to the epinephrine system, insular apparatus and the intermediary lobe of the pituitary. The metabolism center in the interbrain, which had been long checked by the peripheral action of the thyroid secretion, dominates temporarily—a revolution from the hormonic to the nervous regulation. The definite distribution of hair and other secondary sex characters appear. With the decision of the fight in favor of the gonads, the third phase of puberty—maturity—is accomplished. In puberty disturbances, the delayed occurrence, with otherwise normal development, gives the best therapeutic opportunities. Thyroid extracts and eventually the anterior lobe of the pituitary start the process.

Changes in Susceptibility to Tuberculin.—Ossoinig observed at different times a peculiar increase and decrease of the tuberculin reaction occurring in the majority of the patients tested. He thinks of climatic influences, although he was unable to find any definite indications of them.

Variations in the Predisposition.—Hamburger reports on the observations made by Haidvogl in diphtheria. The results of the Schick test may be quite opposite at different times. The antitoxin content of the serum varies considerably. He also mentions Ritte's experiments which showed that children may tolerate without symptoms at times twice the amount of atropine to which they react distinctly at other times.

Metabolism in Pylorospasm.—Vollmer and Serebrijski found no sign of general spasmophilia in the pylorospasm of infants in spite of the alkalosis caused by loss of hydrochloric acid. The ammonia excretion was extremely small, the urine alkaline (p_H always above 7.4), and only traces of chlorides were present. The alkali reserve of the blood was high—sometimes over 100. The blood chlorides and residual nitrogen were always low. They conclude that this condition shows the existence of a decompensated alkalosis without tetany. The explanation for this paradox may be in the possibility that the lowered concentration of blood chlorides and nitrogen counteracts the lowering of the concentration of the calcium ions, which would otherwise occur with the increase of blood bicarbonate, according to the Rona-Takahashi formula.

Food and Intestinal Secretion.—Rosenbaum introduced various food mixtures into the duodenum of dogs. Within twenty minutes, the contents had a p_H of 7.3-7.6, no matter whether the food consisted of proteins, fat, or carbohydrates, or whether it was neutral, or acid. Much more secretion is naturally necessary to neutralize the acid mixture. He concludes that the acidity of the contents is the stimulus for secretion.

Cholera Infantum.—Bratusch-Marrain confirms, although not fully, the good results of Monrad's treatment of acute alimentary intoxication in infants. It consists of starvation for two to seven days after administration of 5-10 Gm. of castor oil and a water diet, with daily subcutaneous injections of physiologic solution of sodium chloride.

Histology of the Pancreas in Nutritional Disturbances.—Dreifuss found an elective infiltration of Langerhans' islands with lipoids in grave alimentary toxicosis of infants. A fatty degeneration of the exocrine (external secretion) part of the pancreas is rare, and does not occur in nurslings.

Anemia in Congenital Syphilis.—Frank found anemia practically only in those congenitally syphilitic infants who had visceral changes. The antisyphilitic treatment influenced the grave anemia cases about as little as it improved the visceral symptoms. In some lethal cases a lymphocytosis up to 90 per cent (with 30,000 white cells per cubic millimeter) occurred. Monocytosis was noted even in the milder cases.

The Incubation of Tuberculosis.—Epstein found the incubation period in tuberculosis in infants almost constant: three to seven weeks, when determined by the intracutaneous test; four to ten weeks with the cutaneous test. Age, localization or source of infection made no difference.

Münchener medizinische Wochenschrift, Munich

73: 1-46 (Jan. 1) 1926

Collapse, Shock and the Vegetative System. H. Coenen.—p. 1. C'td.
*Cellular Reticulum and Reticulo-Endothelial System. W. v. Möllendorff. —p. 3.
Treatment of Underweight Persons. E. Vogt.—p. 7.
Vegetative Regulation of Skin and Liver. E. F. Müller.—p. 9. C'td.
*Uricoxydase of the Blood. Flatow.—p. 12.
Lymphocyte and Monocyte Reaction. P. Wichels and W. Barner.—p. 14.
*Reaction of Vaginal Secretion in Gonorrhea. K. Volkmann.—p. 15.
Aphasia After Apoplexy. W. Eliasberg.—p. 16.
*Iodine in the Body. E Maurer and S. Diez.—p. 17.
My Gastroscope. R. Korbsch.—p. 20.
Roentgen Study of Lungs After Surgery. A. Brunner.—p. 21.
Mechanization of Practice of Medicine. H. Braun.—p. 27.

Cellular Reticulum and Reticulo-Endothelial System.—Mollendorff studied the cells of the loose connective tissue of white mice after injections of trypan blue. He traces a line of development from the network of fibrocytes to so-called macrophages, and believes that the latter develop a marked activity only while being still in connection with the other cells.

Uricoxydase of Blood.—Flatow has continued his research on the uric acid of the blood. He found a rapid decrease on standing which can be explained best by the presence of an oxidative ferment. It acts in the same way on added uric acid. He concludes that about 90 per cent of it has escaped attention hitherto when the whole blood was used. There is less oxidase in the serum, and therefore the error with serum is smaller.

Reaction of Vaginal Secretion in Gonorrhea.—Volkmann warns against relying on Danin's test (described in these columns, July 4, 1925, p. 77) for the diagnosis. Repeated microscopic findings are more reliable.

Iodine in the Body.—Maurer and Diez found a regular increase in the iodine content of the blood on the first day of menstruation (average 0.0193 mg. per hundred cubic centimeters, against 0.0092 in the interval).

Wiener klinische Wochenschrift, Vienna

39: 1-40 (Jan. 1) 1926

Glands of the Skin. J. Schaffer.—p. 1.
Syphilis of Blood Vessels. C. Steinberg.—p. 5.
*Pathogenesis of Gastric Ulcer. R. Bálint.—p. 7.
Pregl's Kidney Function Test. H. Haberer.—p. 10.
Anomalies in Connection Between Skull and Neck in Children. F. Kermauner.—p. 12.
Thick Cereal with Fat in Infant Feeding. W. Knoepfelmacher.—p. 13.
*Therapeutic Action of the Pituitary. W. Lampe.—p. 15.
Development of Otology. H. Neumann.—p. 16.
*Grave Mediastinal Processes. W. Neumann.—p. 18.
Atony. J. Pál.—p. 19.
Migraine and Epilepsy. E. Redlich.—p. 21.
Figures Formed by Electric Discharge. P. Schneider.—p. 25.
*Complications After Operations. J. Schnitzler.—p. 26.
*Shock Treatment of Diabetes. G. Singer.—p. 28.
Rupture of Uterus: Spontaneous or from Violence? Haberda.—p. 32.
Influenza and Encephalitis. A. Luger. Supplement.—pp. 1-19.

Pathogenesis of Gastric Ulcer.—Bálint explains the action of the Sippy treatment by an alkalization of the whole body—not of the gastric contents. Its analgesic action was manifest even with subacidity or after intravenous injection of alkali. Richet and Fossey found a favorable influence from sodium bicarbonate even when it was introduced by the rectum. Szirmay observed an alkaline shifting of the acid-base balance of the organism after injections of foreign proteins, and Patay after atropine. Bálint found in 40 per cent of twenty-two ulcer patients an abnormally high hydrogen ion concentration in the blood serum, and a high normal only in 11 per cent. On injecting a rabbit daily with 4 cc. of an acid mixture of sodium phosphate and hydrochloric acid, he observed scarcely any tendency to healing of a wound. He had good results with the alkaline treatment of leg ulcers. He believes that an abnormally acid reaction of the tissues accounts for the chronic character of these and peptic ulcers, and that alkalization of the body—not merely of the gastric contents—is the therapeutic factor.

Activity of Posterior Lobe of the Human Pituitary.—Lampe confirms all the properties of pituitary extracts in preparations obtained from the posterior lobe of the human pituitary.

Grave Mediastinal Processes.—Neumann has observed another case of acute dilatation of the stomach and a case of ileus—both due to destruction of the vagus by sarcoma or tuberculous scar tissue. There was also a dilatation of the gallbladder in the latter case.

The Constitution and Complications After Operations.—Schnitzler observed the familial occurrence of postoperative thrombosis. This may indicate that a constitutional factor is partly responsible for it. Conditional factors—such as menstruation—*may also be among the causes of postoperative* embolism.

Shock Treatment of Diabetes.—Singer injects small amounts of proteins every other day and later every fourth day, increasing the dosage slightly.

39: 41-64 (Jan. 7) 1926

*Hypertension from Pituitary Extracts. A. Leimdörfer.—p. 41.
Goiter Prevention by Iodized Salt. B. Breitner.—p. 42.
Pneumococcus in Bone Marrow in Acute Leukemia. L. Burian.—p. 47.
Oxygen Pressure and Tuberculosis. A. Juergensohn.—p. 49.
Uterine Lipomas. E. Preissecker.—p. 51.
Sulphur Dioxid Treatment of Wounds. E. Morawek.—p. 52.
The First Ether Anesthesias. I. Fischer.—p. 52.
Blood Transfusion. K. Nather. Supplement.—pp. 1-16.

Hypertension After Intraspinal Injection of Pituitary Extract.—Leimdörfer injected pituitary extracts intraspinally in cats. They produced a three to four times greater rise of the blood pressure, which lasted twice to four times longer than when the same amount had been injected intravenously. He found enlargement of the sella turcica in certain hypertension patients, and suggests the possibility of a causal connection, as well as of therapeutic utilization of his observation in low blood pressure. Molitor and Pick had found a more pronounced inhibition of diuresis after intraspinal injections of pituitary extracts than after intravenous.

Zeitschrift für Kinderheilkunde, Berlin

40: 427-622 (Dec. 31) 1925

Hemorrhages in Skull and Brain of the New-Born. P. Schwartz and L. Fink.—p. 427.
*Metabolism in Puberty Goiter. A. Eckstein and E. Mommer.—p. 475.
*Iodine Resorption in the Thyroid. A. Eckstein and M. Nuelle.—p. 488.
Transitory Infiltrates of the Lungs. W. Friedenberg.—p. 493.
*Trypanocidal Action of Serum. Neumark and Pogorschelsky.—p. 535.
Meningo-Encephalic Conditions. J. Brock.—p. 552.
Dick Test in Scarlet Fever. K. Kundratitz.—p. 573.
Etiology of Erythema Nodosum. H. Koch.—p. 584.
Treatment of Diarrheic Nutritional Disturbances. Buschmann.—p. 590.
*Rickets and Avitaminosis. W. Schmitt.—p. 601.
*Normal Heart Sounds. L. D. Steinberg.—p. 620.

Gas and Iodine Metabolism in Puberty Goiter.—Eckstein and Mommer found a normal basal metabolism in adolescents with puberty goiter. Regular administration of iodine had no characteristic effect on the gas metabolism, even in cases which had been clinically well influenced. The iodine salt was rapidly eliminated by the urine. A parenchymatous goiter removed surgically from a patient who had been long treated with iodine contained comparatively large amounts of it.

Iodine Resorption by the Thyroid.—Eckstein and Nuelle produced a moderate increase in the iodine content of the thyroids in dogs by administration of iodine compounds for seven weeks.

Trypanocidal Action of Serum.—Neumark and Pogorschelsky confirm that the trypanocidal substance is present in the serum of healthy infants 11-15 weeks old. Only two congenitally syphilitic infants were positive in the second and fifth week. Infectious diseases of every kind, including "colds," lower the trypanocidal action of the serum. The same phenomenon in avitaminosis is also due only to accompanying infections.

Rickets and Avitaminosis.—Schmitt found that administration of B and C vitamins cures only those cases of rickets which have a spontaneous tendency to recovery. He concludes that rickets is not the combined avitaminosis which Reyher believes it to be. The curative influence of light was beyond any question.

Normal Heart Sounds.—Steinberg has found practically in every child the third heart sound discovered by Gibson and Einthoven, and studied especially by Obraszoff. It occurs usually in the beginning, less frequently in the middle of the diastole. It may be heard by direct auscultation in the third interspace between the sternal and midclavicular lines. It has a low pitch and is about 200 times weaker than the second sound.

Zentralblatt für Chirurgie, Leipzig

53: 1-64 (Jan. 2) *1926*

*Removal of Open Safety Pin from the Esophagus. L. Drüner.—p. 1.
Torsion of the Omentum. E. Schwarz.—p. 5.
Calcified Hydatid Cyst in Liver in Cholelithiasis. L. P. Mariantschik.—p. 9.
*Topical Diagnosis of *Peptic Ulcer. A. Frenkel.—p. 13.*
*Prevention of Postoperative Pneumonia. F. Lindauer.—p. 16.
Removal of Fumes of Anesthetics. A. Henle.—p. 17.

Removal of Open Safety Pin from the Esophagus.—Drüner's patient had swallowed an open safety pin which had lodged in the esophagus on a level with the first rib, the point of the pin upward. The pin was extracted easily by way of the stomach after a laparotomy, under guidance of the roentgen rays.

Topical Diagnosis of Peptic Ulcer.—Frenkel believes that disappearance of the localized tenderness in the knee-elbow position indicates its site near the pylorus. Persistence of the pain is associated with other ulcers of the stomach.

Calcium Chloride Urea in Prevention of Postoperation Pneumonia.—Lindauer injected 10 cc. of 10 per cent calcium chloride urea intravenously, one hour before the laparotomy, in 100 cases, using another 100 cases for controls. Bronchitis occurred in six cases of the first series and in twenty of the latter group; pneumonia in four of the former and in six of the latter group. No deaths from pneumonia occurred in the patients treated with calcium chloride urea while three died among the controls.

Zentralblatt für Gynäkologie, Leipzig

50: 1-64 (Jan. 2) 1926

*Accident and Unfitness in Obstetric Practice. H. Sellheim.—p. 1.
*Stimulation of Uterine Contractions. C. J. Gauss.—p. 13.
Value of Diagnosis from Excisions and Scrapings. R. Meyer and C. Kaufmann.—p. 20.
*Damage to Fetus from Irradiation. H. Martius and H. Franken.—p. 25.
*Histology and Prognosis of Cancer. Böhm and E. Zweifel.—p. 30.
*Lipoid Content of Ovum and Sex Determination. E. Fels.—p. 35.
Plastic Operation on Cleft Uterus. H. Fuchs.—p. 39.
Backache in Adnexitis. L. Kraul.—p. 46.
Mixture Cyanosis of the New-Born. M. Traugott.—p. 50.
Kidney and Liver in Eclampsia. E. Preissecker.—p. 52.
Eclampsia and Calcium. Günter and K. F. Schultze.—p. 57.

Accident and Unfitness in Obstetric Practice.—Sellheim deals with the borderland between obstetric accident, criminal negligence and gross incompetency of the obstetrician. He pleads for partial revoking of the license in the latter case, until the culprit can prove that he has acquired sufficient knowledge and skill. He believes that very little actual practice with profound theoretical knowledge will make a good obstetrician.

Stimulation of Uterine Contractions.—Gauss found a Zander vibration stool and locally applied vibration useful for inducing labor.

Damage to Fetus from Irradiation.—Martius and Franken irradiated mice with roentgen rays. Only one pair out of five were sterilized, but the litters from the other pairs were small and their mortality high. The surviving young mice were underdeveloped and sterile at the age of 9 months.

Histology and Prognosis of Cancer.—Böhm and Zweifel compared the microscopic findings with the results of roentgen treatment in 122 cases of cancer of the uterus. The best results were obtained in medullary carcinoma with immature cells, containing a profusely vacuolized cytoplasma, strong leukocytic infiltration of the stroma, and production of granulation tissue. The worst results from the roentgen rays were seen in highly differentiated epidermoid carcinomas displaying a tendency to keratosis, without leukocyte infiltration of the stroma. Their estimate of the outcome from the histologic findings failed in only 10 per cent.

Lipoid Content of Ovum and Sex Determination.—Fels confirms on human ovaries differences in the phosphatid content of the nucleoli of the ova. He regards them as indicators of the state of nutrition of the ova, and does not believe that the sex is predetermined according to the phosphatid content of the primordial follicles, or even later.

Zentralblatt für innere Medizin, Leipzig

47: 1-32 (Jan. 2) 1926

*Blood Pressure in Exophthalmic Goiter. A. Troell.—p. 2.
Diathermy in Neurasthenia, Sciatica and Hysteria. Kyaw.—p. 11.

Blood Pressure in Exophthalmic Goiter.—Troell found a higher systolic pressure and greater amplitude of pressure—the latter parallel with the increased metabolism—in exophthalmic goiter patients than in controls of the same age. The tachycardia, palpitations and perhaps some disturbance of the suprarenals may be the causes. The pressure returns to normal after thyroidectomy.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

2: 2651-2762 (Dec. 12) 1925

Pneumothorax Treatment in Tuberculosis. M. M. Hijmans.—p. 2652.
*Psychoses and the Heart. J. L. van Lier.—p. 2661.
Congenital Epidermolysis with Cyst Formation. N. I. Heijbroek and W. L. L. Carol.—p. 2668.
*The Erect Position. R. J. Harrenstein.—p. 2676.
The Scarlet Fever Question. H. Aldershoff.—p. 2694.

Mental Disease and the Heart.—Van Lier says that in the last 265 necropsies at the public hospital for mental disease, thirty of the cadavers had macroscopic heart lesions. In his clinical experience, when a person predisposed to mental disturbances acquires heart disease, the character changes in the line of irritability, readiness to anger, and an anxiety neurosis. If the mental disease develops with an already established heart defect, the character of the psychosis is influenced by the disturbance in the brain from the heart lesion. Treatment of the latter may aid in the cure of the psychosis, and such should never be neglected. Even when the heart disease is not clinically manifest without the equipment of a modern hospital, treatment of the psychoses of the above mentioned type should include tentative treatment of the heart. By restoring compensation, the anxiety neurosis, etc., may be favorably influenced, as he shows by a few concrete examples.

The Inferiority of Our Organism for Which the Erect Position Is Responsible.—Harrenstein discusses the relation of certain pathologic conditions to the acquired erect position. Before the child learns to walk, its falls and bumps may be responsible for the localization of osteomyelitis or tuberculosis later in life. Gravity is defied in the erect position, and it gets its revenge in the weakly and the rachitic. Not only hernia but visceroptosis and varices are among the penalties we pay not only for the erect position but for the unhygienic conditions of modern life which compel continuous standing, walking, etc., without due intermissions of repose. Among the measures he suggests to combat the consequences of the erect position is the avoidance of unnecessary fat. This reduces the weight we have to carry around and move up and down at each breath. The strengthening of the muscles by exercise aids in reducing the damage from the erect position, warding off pathologic conditions in the internal organs, invited by the erect position.

Ugeskrift for Læger, Copenhagen

87: 1125-1182 (Dec. 17) 1925

Enlarged Mesenteric Glands. A. Sennels.—p. 1125.
Myxedema After Too Vigorous Roentgen-Ray Treatment of Exophthalmic Goiter. C. Gram.—p. 1128.
Change of Character After Traumatism; Recovery After Operation. G. Clausen.—p. 1130.
Orbital Lesion of Dental Origin. O. Bjerrum.—p. 1131.
Portable Formaldehyd Sterilizer for Catheters. Tvedegaard.—p. 1133.
Aspiration Treatment of Chronic Tonsillitis. H. Heidemann.—p. 1133.
The Question of a Public Infirmary for Nervous Affections. H. I. Schou.—p. 1138.

87: 1183-1192 (Dec. 24) 1925

*Light and Vitamin A. C. E. Bloch.—p. 1183.
Prolapse of Umbilical Cord at Five Successive Pregnancies. K. A. Nielsen.—p. 1186.

Light and Vitamin A.—Bloch reports an instance of xerophthalmia in a boy of 9 and his sister, aged 8. That lack of vitamin A was the causal factor was evident in the subsidence of the xerosis when vitamin A was supplied; it had to be injected intramuscularly in the boy, as it did not seem to be absorbed from the digestive tract. The boy grew robust during the summer at a seashore sanatorium, but developed xerosis toward the close, during recurring attacks of diarrhea, and the girl's xerosis returned likewise in the autumn during an acute infectious sore throat. In both cases the supply of vitamin A being thus temporarily reduced, allowed the return of the xerosis. Exposure to the carbon arc Finsen light for a total of thirty-two and twenty hours in the course of three to six weeks failed to modify the xerosis, just as the sunlight at the seashore had failed to prevent its development. Neither sunlight nor outdoor life had been able to substitute for the deficiency in vitamin A or to supply it to the organism. These and Bloch's other clinical and experimental experiences sustain his assumption that the radiant energy from the ultraviolet rays is necessary to stimulate certain functions; it is indispensable when these functions are depressed from any cause. The ultraviolet ray energy is taken up by the organism either by direct irradiation or by food charged with this energy, such as cod liver oil, yolk of egg, and milk, to a certain extent. He refers to experiments which seemed to show that this energy passes into the milk of cows exposed to ultraviolet rays, although the cows otherwise showed no signs of influence from it.

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PYELOVENOUS BACK FLOW *

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A reflux of material from the renal pelvis into the veins of the kidney was described in a recent communication by Hinman and Lee-Brown.[1] The reflux occurred at low intrapelvic pressures varying from 30 to 60 mm. of mercury both in the living and in the recently removed kidneys of sheep, rabbits and dogs.

Although the site of this "pyelovenous back flow" was not definitely determined, injections of collodion and Berlin blue and roentgenograms after injection of sodium bromid solution appeared to show that one or more channels in the region of the tips of the minor calices were forced open, through which material in the renal pelvis flowed directly into a neighboring vein. This phenomenon apparently occurred without the slightest extravasation into the tissues.

These authors made a special point of the observation that in their experiments none of the fluid was ever found higher in the tubular system than the lower ends of the collecting tubules, even though the intrapelvic pressure was elevated gradually to many times that necessary to produce "pyelovenous back flow." They stated that reflux of pelvic contents to tubules was "found impossible of experimental production in the normal kidney," and, furthermore, that "high back pressures of even 400 mm. of mercury, which cause general parenchymal extravasation, failed to cause much deeper penetration of tubules." They found none of the injection fluid in the straight or convoluted tubules or in the Bowman's capsules. These results were in direct contradiction to the work of Blum,[2] of Mason,[3] and of Burns and Swartz.[4]

The thought occurred to us that by carrying out the experiments of Hinman and Lee-Brown with a solution of iron ammonium citrate and potassium ferrocyanid, which produces the Prussian blue reaction when added to an acid-formaldehyd fixing fluid, we might be able to determine quite accurately the path of "pyelovenous back flow," if such a flow, indeed, occurred.

We tried the procedure in a living dog with the circulation undisturbed.[5] Intrapelvic pressure, under manometric control, was varied by the use of the apparatus shown in Figure 1. What might possibly be interpreted as a back flow was obtained at 40 mm. intrapelvic pressure. The pressure was slowly increased from 10 mm. to 100 mm. over a period of two hours and ten minutes. During this time, only 10 c.c. entered the kidney.[6] The kidney and pelvis were now divided longitudinally and placed in the acid formaldehyd mixture. Gross examination showed a coating of blue over the intact pelvis and a streaking of blue from the papilla through the medulla and cortex of each pole of the kidney. There were a few streaks toward the middle of the kidney but many less than toward the poles. On microscopic examination, Prussian blue crystals were found in many of the collecting tubules. There were likewise Prussian blue crystals in the corresponding groups of tributaries; that is, in the ascending and descending Henle's loops, convoluted tubules and Bowman's capsules (Figs. 2 and 3). In none of the sections was there any indication of rupture of the pelvic epithelium. A very few Prussian blue crystals were found mixed with the blood remaining in the veins.

We repeated the experiment, obtained a "back flow" of 0.5 c.c. of solution at 35 mm. intrapelvic pressure, allowed the pressure to rise to 40 mm. over a period of five minutes, and then discontinued the experiment. Nine-tenths cubic centimeter of the injection fluid had run in. The pelvis was intact as before; there was streaking toward each pole, and none at all toward the middle of the kidney. Serial sections made through one half of each pole and a few sections cut through the papilla in the plane of the collecting tubules showed:

(*a*) Several collecting tubules at each pole full of Prussian blue crystals;

(*b*) A larger number of Henle's loops and convoluted tubules containing traces of the blue, and a few tubules containing large amounts of it. None of the Prussian blue had reached the glomeruli. This was possibly due to the low pressure used;

(*c*) In many places, tubules containing the Prussian blue in direct contact with the endothelium of the straight and arcuate veins. In several places the intimate contact was particularly striking, and it was difficult to decide whether or not the injection fluid had actually broken through from the tubule into the vein. One section showed bulging of a thin-walled tubule *into a straight vein.*

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[1] Hinman, Frank; and Lee-Brown, R. K.: Pyelovenous Back Flow, J. A. M. A. **82**: 607-612 (Feb. 23) 1924.

[2] Blum, V.: Ueber den Wert der Pyelographie und anderer Methoden zum Nachweise von Dilatationen des Nierenbeckens, Wien. med. Wchnschr. **62**: 1269, 1912.

[3] Mason, J. M.: Dangers Attending Injections of the Kidney Pelvis for Pyelography, J. A. M. A. **62**: 839-844 (March 14) 1914.

[4] Burns, J. E., and Swartz, E. D.: Absorption from the Renal Pelvis in Hydronephrosis Due to a Permanent and Complete Occlusion of the Ureter, J. Urol. **2**: 445-454 (Dec.) 1918.

[5] Most of Hinman and Lee-Brown's work was done with recently removed sheep's kidneys.

[6] Hinman and Lee-Brown state that in their experiments, after the flow started, large amounts of fluid could be slowly injected without elevating the intrapelvic pressure or causing extravasation. When using a syringe they felt a definite diminution in the amount of pressure necessary to advance the plunger at the instant the pyelovenous flow started. Once started, the flow was said to continue at a lower pressure than that necessary to initiate the flow.

These experiments were repeated several times, and in each instance the same streaking of Prussian blue up the tubules was obtained. On microscopic examination the blue was seen in Bowman's capsules in every case in which the pressure was increased to more than 50 mm. of mercury. That this reaction was not due to entrance of the pelvic solution into the blood stream with subsequent secretion through the glomeruli was evident from the fact that only the glomeruli in the region of distribution to the blue-filled collecting tubules contained the Prussian blue; none of the Bowman's capsules supplying the middle of the papilla contained even a trace. Furthermore, the same procedure produced identical results in a recently removed kidney, disposing of the possibility of the occurrence of any secretory process. As conclusive proof of this point, and to satisfy ourselves that the discrepancies between our results and those of Hinman and Lee-Brown were not due to their using recently removed kidneys in contradistinction to our use of kidneys in the living animal, we carried out the procedure on a living kidney, on a recently removed kidney of the same dog, and on an eight hour old kidney from another dog, using a 20 per cent suspension of India ink in physiologic sodium chlorid solution. Results identical with those obtained with the Prussian blue reaction were found, the ink being present in many tubules and in the Bowman's capsules. Another point of interest is that during the experiment on the recently removed and on the eight hour old kidney, not a drop of ink flowed from the open renal vein.

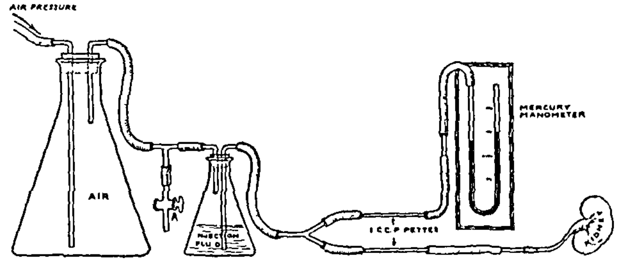

Fig 1.—Apparatus used in experiments Air pressure was supplied by a water jet pump and the manometric pressure controlled by adjustment of the valve *A* which allowed varying amounts of air to escape, the kidney was placed on a level with the manometer

Hinman and Lee-Brown used a variety of animals (dogs, rabbits and sheep) in their work and conclude that "the phenomenon seems due to some fundamental structural weakness which is universal for the amniotic type of kidney."

COMMENT

These experiments seem to justify the following conclusions:

1. A back flow of fluid from the renal pelvis into the tubules and Bowman's capsules may occur under conditions of moderately increased intrapelvic pressure.

2. If a back flow of pelvic contents into the venous system of the living animal ever occurs, the probable mechanism is by rupture of tubules into the large straight and arcuate veins intimately related to them

3. The conception of a true pyelovenous back flow should not be accepted without further experimental proof.

On the strength of their premise that a true pyelovenous back flow takes place, Hinman and Lee-Brown assume that the rapid absorption of phenosulphonephthalein placed under moderate pressure in the renal pelvis occurs in this manner. Furthermore, in their experiments on hydronephrotic kidneys the rapid appearance of phenolsulphonephthalein in the urine of the opposite kidney was used as a criterion for judging whether "pyelovenous back flow" had occurred. They concluded that a back flow had taken place and on this basis explained the mechanism of hydronephrotic atrophy with tubules functioning for some time after a complete ureteral block, and discarded *en masse* all of the theories of tubular reabsorption. The suggestion was made by them that the bleeding in intermittent hydronephrosis might be the result of the return of *blood through the path formed by the "pyelovenous* back flow." Finally, they say that they "are inclined to believe that all of the clinical accidents following pyelography are due primarily to the structural phenomenon of pyelovenous back flow."

If "the degree of intrapelvic pressure required to produce . . . pyelovenous flow is always less than maximal secretory pressure,"[1] the openings into the collecting tubules from the pelvis are, then, necessarily patent. The pressure over every square unit of tubule wall is exactly equal to that over every like unit of pelvic wall.

If a ureter is tied off, the intrapelvic pressure gradually rises because of the accumulation of urine passing down the tubules into the renal pelvis. While the pressure increases, it is obvious that some of the collecting tubules must still be open into the pelvis. Therefore, while the kidney is still functioning, it is inconceivable that a pressure lower than maximum renal secretory pressure (that is, a pressure that is said to produce "pyelovenous back flow") should, by valvelike action, which Hinman and Lee-Brown postulate, close over the openings of the collecting tubules into the pelvis. That this does not occur is shown by their figures, which

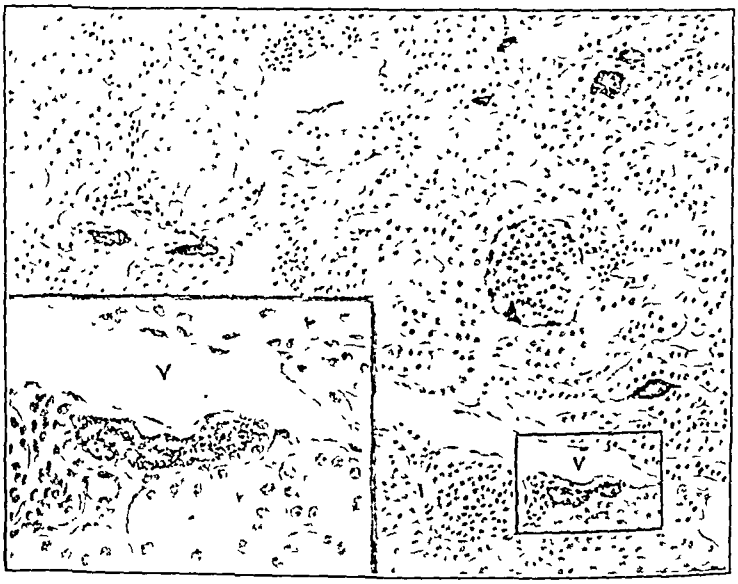

Fig 2.—Section of a dog's kidney showing Henle's loops, the convoluted tubules and Bowman's capsule containing Prussian blue Spencer microscope, with ocular, 10×, objective, 16 mm used, slightly reduced from a drawing with a magnification of 140 diameters Inset shows a tubule filled with Prussian blue in direct apposition with vein *V*; ocular, 5 ×, objective, 4 mm., reduced from a drawing with a magnification of 300 diameters

show a certain degree of progress of the Berlin blue, which they used for "pyelovenous" injection, up the tubules.

Hinman and Lee-Brown believe that the point of entry of the injection fluid is in the deep sulci of the minor calices and hypothecate that this is due to a structural condition at the bases of the pyramids, which may be analogous to the conditions in the eye whereby under certain conditions of back pressure the fluid of the anterior chamber passes almost directly into the venous system of the sclera. However, at the minor calices in the dog and in man, the pelvic cavity is separated from the venous system by the pelvic epithelium, from two to four cells deep, and a varying amount of fibrous tissue. On the other hand, in the tubules there are numerous areas of direct apposition of a single layer of tubular epithelium with the thin venous endothelium. Under these circumstances, any rupture that allows the contents of the pelvis to run into the venous system would probably occur between the tubule and a straight vein. As Hinman and Lee-Brown point out, the greater ease of "back flow" in hydronephrotic kidneys, with their scarring and thickening adjacent to the pelvis, is difficult to explain on the basis of a pyelovenous rupture. On the other hand, the surviving tubules of a hydronephrotic kidney may be thinner than normal, and thus might more easily rupture into coapted veins. The only capillaries and veins reasonably near the tips of the minor calices are very small. Any pressure which would open out the calices would in all likelihood collapse these veins so that a rupture into them would be improbable. While a rupture into a large vein after traversing a considerable amount of fibrous tissue is the probable route by which collodion or thick gelatin masses enter the veins in injections of the renal pelvis, it is very unlikely that a thin fluid which will run up the tubules should follow any such course.

The roentgen-ray evidence which Hinman and Lee-Brown exhibit as "indisputable" proof of their theory we believe is not convincing, for a rupture of one or more tubules into a vein would produce just as good a venous injection as the rupture of the tip of a minor calix into a vein. The roentgenograms, too, are not inconsistent with the possibility of a certain amount of tissue extravasation with secondary rupture into a vein such as might occur if the experiment was carried out some time after death of the kidney when the tubular system was collapsed.

It is possible that several breaks between tubules and veins occur when the intrapelvic pressure is elevated to a point much above the normal tubular and pelvic pressure; that is, whenever a ureteral block occurs, or during injections for pelvic lavage or pyelography.

SUMMARY

Our experiments show that aqueous solutions and suspensions of India ink in physiologic sodium chlorid solution pass readily from the pelvis of the dog's kidney into the collecting tubules through the convoluted tubules and the loops of Henle into Bowman's capsules, under conditions of gradually increasing intrapelvic pressure ranging from 10 to 100 mm. of mercury.

Directly opposed to these results is the statement of Hinman and Lee-Brown that "injection of the deeper renal tubules is impossible by way of the ureter," even though a pressure approximating 400 mm. of mercury is used.

These authors describe what they designate as "pyelovenous back flow" and believe that it occurs under conditions of moderately increased intrapelvic pressure both in the living and in the recently removed kidneys of sheep, rabbits and dogs.

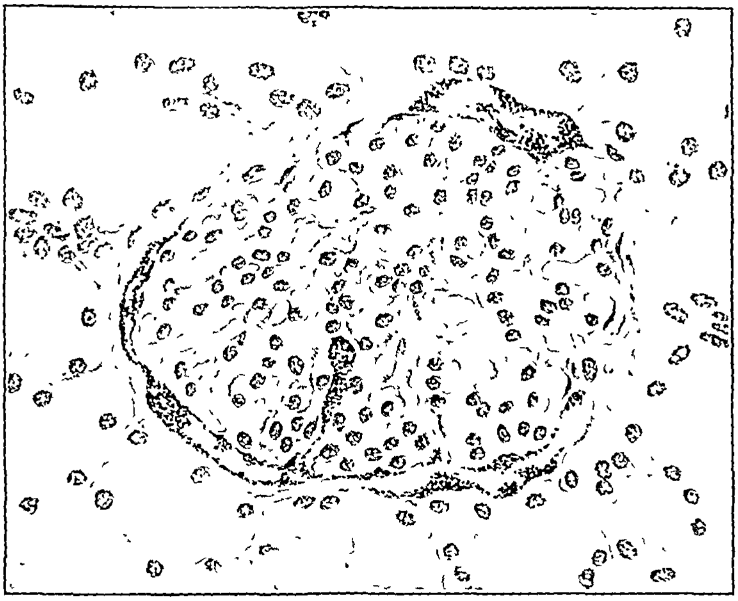

Fig 3.—A single glomerulus with Prussian blue in Bowman's capsule; ocular, 10 ×; objective, 4 mm, slightly reduced from a drawing with a magnification of 600 diameters

We think it more likely that if a back flow of pelvic contents occurs, the ruptures allowing the flow take place in the areas of apposition of the small tubules of Henle's loops and the convoluted tubules, with the large straight and arcuate veins.

Our experiments do not support the conception of a true "pyelovenous back flow" as described by Hinman and Lee-Brown.

Save the Women and Children.—If we examine certain tables in the registrar general's report dealing with causes of death, we find those due to childbearing third on the list. . . . It is obvious from the writings and speeches of public health officials, as also of the laity, personally or combined in the form of the approved societies, that a movement is taking place to insist that the present deplorable maternal and infantile mortality and morbidity ought to be, and shall be, diminished. If, therefore, the medical profession itself does not take up the question seriously and now, it will wake up one morning to find that all kinds of rules and regulations have been made that may seriously affect its position. Let us all do our best; it is no use cursing each other; this will not improve matters; this will not save a single life. The general practitioner, apart from the patient, is the most seriously concerned. By insisting on antenatal supervision, by linking up with the county health authorities, by welcoming the assistance of obstetric experts, bacteriologists, trained nurses and voluntary societies, by reporting at once cases of fever during the puerperium, by giving willingly all the information he can to those constituted to receive it, the general practitioner is bound to be the chief instrument in the reduction of the maternal and infantile mortality and morbidity.—Berkeley, Comyns · *Brit M. J* **1**:4 (Jan. 2) 1926

PARTIAL GASTRECTOMY

ITS INDICATIONS, PROPHYLAXIS AND TECHNIC *

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There are two definite classes of lesions of the stomach in which gastrectomy may be indicated. One is malignancy, and the other is peptic ulcer with its complications or sequelae. The first indication, malignancy, admits of no discussion. Gastrectomy is the only known cure for cancer of the stomach. Unfortunately, many patients suffering from this disease come too late for a radical operation, and there is sometimes a tendency to wait too long under medical treatment while the cancer continues to develop. Just what proportion of benign gastric ulcers become cancerous it is difficult to state. The percentage of gastric cancers arising from a peptic ulcer base is estimated at from 10 to as high as 70, the latter being the figures given by the Mayo Clinic. That a certain proportion of gastric peptic ulcers do apparently develop into cancer is admitted by all pathologists interested in the study of cancer of the stomach.

The indications for gastrectomy for a gastric peptic ulcer are to some extent involved in the consideration of the tendency of these ulcers to become cancerous. Besides, there seems to be less success in the medical treatment of gastric ulcer than of duodenal ulcer. If the ulcer heals, it may leave large scars and contractions, sources of irritation and sometimes of obstruction, such as stenosis at the pylorus or hour-glass contraction in the body of the stomach.

Undoubtedly an early gastric ulcer should be given medical treatment for several weeks, at least, before operation is considered. If there is a tendency for the ulcer to heal under medical treatment, as observed by improvement in symptoms and by careful roentgenologic examinations made at intervals of several weeks, the medical treatment may be continued indefinitely. If, however, the ulcer heals only to a certain stage and remains stationary, or if it increases in size, an operation should be done. It must be remembered that even when a gastric or duodenal ulcer has healed from medical treatment it does not always stay healed. One of Dr. W. H. Mayo's famous epigrams is that he does not operate on a peptic ulcer until it has been cured by medical treatment at least nine times. The operation of gastrectomy, then, is not indicated in peptic ulcers until medical treatment has been given a reasonable trial, unless the ulcer is large and adherent and it appears improbable that medical treatment will benefit. Whenever there is a suspicion of malignancy, operation should be promptly done. A gastric peptic ulcer an inch (2.5 cm.) in diameter is always suggestive of malignancy. In advanced cases there seems no reason for unusual delay in operation. Recurrent bleeding and perforation, of course, demand operation.

All stomachs that are operated on, however, are temporarily impaired because of the operation, and medical treatment and regulation of diet should be given by an internist, not only during the convalescence but also for months after the operation. If this is done and a suitable operation has been properly performed, the patient should become and remain symptom-free.

The indications for gastrectomy and for other operations on the stomach must often be compared. I see no occasion for the routine performance of an extensive gastrectomy whenever there is a peptic ulcer, even in the duodenum, which seems to be the practice of some radical schools of gastric surgery. The theory that the pyloric mucosa secretes a specific hormone, gastrin, which is absorbed in the blood and stimulates the secretion of gastric juice, and that, consequently, when the pyloric portion of the stomach is removed the secretion of gastric juice will be decreased, is no longer generally held. Carlson and Ivy have not found proof of this theory of Edkins, though there is doubtless some substance in the food which is absorbed by the gastric mucosa and which stimulates the secretion of gastric juice. The pyloric mucosa gives an alkaline secretion, and there seems to be no specific hormone derived from it.

Duodenal ulcers should be very rare indications for gastrectomy, because they can be dealt with either by pyloroplasty if the ulcer is small and accessible or, if it is large and infiltrating, by occlusion of the pyloric end of the stomach with kangaroo tendon and a posterior gastro-enterostomy. The latter operation in large duodenal ulcers gives excellent results. Occasionally there occurs a small duodenal ulcer with an open pylorus, many adhesions and marked pylorospasm. Here, gastro-enterostomy may not relieve the symptoms, and the operation of Devine is indicated.[1] The stomach is divided about the junction of the pyloric and cardiac portions, the distal end is sutured and left as a pouch, and the cardiac end is brought through the transverse mesocolon and united to the jejunum as in posterior gastro-enterostomy (fig. 1). The open pylorus then conveys to the duodenum only the alkaline secretion from the pyloric portion of the stomach and not the acid gastric juice of the cardiac portion.

When ulcers have recurred after a pyloroplasty or if they persist after a gastro-enterostomy, gastrectomy is often indicated. According to Lewisohn[2] of Mount Sinai Hospital, New York, after a duodenal ulcer has healed following gastro-enterostomy, if the gastro-enterostomy is disconnected and food permitted to follow the normal channel, the duodenal ulcer may again become active. Recurrent ulcers or persistent ulcers after gastro-enterostomy, then, particularly if the ulcer is on the gastric side of the pylorus, are indications for gastrectomy.

The pyloric portion of the stomach may be removed after a gastro-enterostomy has been previously done, but the stump of the stomach should be infolded in such a manner that the lesser curvature is buried by the sutures and points toward the gastro-enterostomy stoma. Otherwise, the current of peristalsis may be directed toward a blind pocket. If the gastro-enterostomy has been made near the cardiac end and as much as half of the stomach must be resected, this infolding of the stump of the stomach is unnecessary, because peristalsis occurs chiefly in the right half of the stomach; and, this having been removed, the left half, which merely contracts tonically, may empty in any direction. Here gravity helps.

Jejunal ulcers are an indication for partial gastrectomy. Balfour[3] recommends this operation as very satisfactory for jejunal ulcers. If a gastro-enterostomy is disconnected and the stomach contents are returned

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* From the Surgical Department of St. Elizabeth's Hospital.

[1] Devine, H. B.: Basic Principles and Supreme Difficulties in Gastric Surgery, Surg. Gynec. Obst. **40**: 1-16 (Jan.) 1925.

[2] Lewisohn, Richard: Personal communication to the author.

[3] Balfour, D. C.: Partial Gastrectomy for Gastrojejunal Ulcer, Ann. Surg. **79**: 386 (March) 1924.

to their normal channel over the scar of a healed ulcer in the duodenum or pylorus, the ulcer may recur. As jejunal ulcers are almost unknown except after gastro-enterostomy, their prophylaxis might abolish the necessity for partial gastrectomy, at least in some cases. A jejunal ulcer is often very difficult to cure. It has a great tendency to burrow, and occasionally fistulous openings connect this ulcer with the colon. These ulcers are doubtless much more common than is generally supposed.

Lewisohn[4] has reported 34 per cent of jejunal ulcers following gastro-enterostomy done at Mount Sinai Hospital from 1915 to 1920, inclusive. As is well known, the general standard of surgery at Mount Sinai is high. Lewisohn followed these cases carefully, and thinks that the astoundingly large proportion of cases of jejunal ulcer after gastro-enterostomy in this series is due to the thorough manner in which the after-results have been checked. It is an almost universal experience that gastro-enterostomy, after the pylorus has been closed by a stenosis, is a very satisfactory operation. The stenosis maintains the alkalinity of the duodenal contents, which seems to protect the jejunum at the gastro-enterostomy. When the pylorus is open, however, gastric juice escapes through the pylorus as well as through the stoma of the gastro-enterostomy. The duodenal alkalinity, consequently, is reduced and cannot protect the jejunal mucosa, which is accustomed only to alkaline material, from the acid gastric juice of the stomach poured into it through the gastro-enterostomy. If, then, we could deduct from this series of cases those of cancer, in which the acid is known to be low, and those of stenosis of the pylorus, it would seem that the incidence of jejunal ulcer in the remaining cases reported by Lewisohn would probably be even higher than 34 per cent.

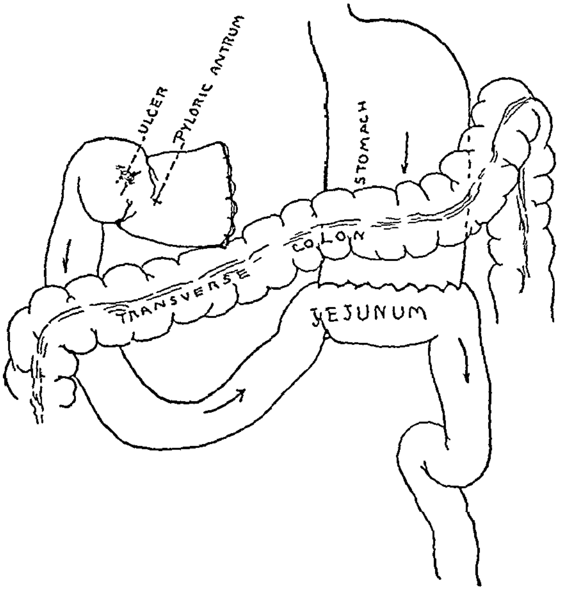

Fig. 1—Devine operation The stomach is divided about opposite the incisura angularis, the pyloric portion is sutured and forms a pouch. the cardiac end is brought through the transverse mesocolon and anastomosed to the jejunum.

Recurrence of ulcer after pyloroplasty may be an indication for gastrectomy. In the pyloroplasty that I[5] have been doing for seven years, the technic consisted in incising the pyloric canal and placing transversely a row of sutures in the pyloric mucosa and then two other rows of sutures above this. I have done sixty-eight of these physiologic pyloroplasties. There were three deaths in the first twelve cases. These have been explained fully in other communications, one of them being due to hemorrhage on the twentieth day from a gastric ulcer on the posterior wall, which was excised from within the stomach at the time of operation and sutured too tightly. Another was due to a late hemorrhage from a stenosis at the pylorus and incised posteriorly. The bleeding area was sutured, but a fatal hemorrhage occurred on the ninth day. The third death was from uremia following pyloroplasty in a patient whose kidney function had not been sufficiently studied at the time of operation. These deaths could in all probability be avoided now. Since the first twelve cases, I have done fifty-six of these pyloroplasties without a death. The chief objection to the operation as originally described was a rather large percentage of recurrent ulcers. We have followed the cases carefully, and while the series of recurrent ulcers is not nearly as great as the group of jejunal ulcers after gastro-enterostomy reported by Lewisohn, it is much too large. There are fourteen cases of recurrent ulcer (20.5 per cent). I have reoperated on seven of these patients, the operation being either partial gastrectomy or gastro-enterostomy. Seven either have been operated on elsewhere, or the ulcers have been demonstrated as recurrences by roentgenologic examination.

It must be recalled that the pyloric mucosa, which secretes alkaline material, is a favorite site of peptic ulcer, whereas jejunal ulcers are almost unknown without gastro-enterostomy. It is important in every operation for peptic ulcer to remove all septic foci, and doubtless some of the recurrences in the earlier cases were due to the neglect of this precaution. Most of them, however, were probably due to the suturing of the pyloric mucosa. Dragstedt's[6] work in producing ulcers in the pyloric mucosa of a dog is most instructive. He has shown that an excellent method of making an ulcer in the stomach of a dog is to place a number of sutures in the pyloric mucosa, which is the sensitive region in the stomach for peptic ulcers. Unconsciously, in inserting the row of sutures in the pyloric mucosa, I have been doing for the patient just what Dragstedt did when he created experimental ulcers.

Since May, 1921, I have abandoned this inner row of sutures, and the technic now emphasizes avoiding clamping or suturing the pyloric mucosa in any way. The inner row of sutures formerly employed is omitted, and the first continuous row of sutures now approximates the muscular and peritoneal coats of the stomach at the lower and the upper angles of the wound. When the duodenum is reached, all of the wall of the duodenum is included in the suture, because it is not practical to separate its mucosa; while the suture on the stomach side catches only the muscular and peritoneal coats, the utmost care being taken to avoid even seizing the pyloric mucosa with forceps. This brings over the pyloric mucosa as a curtain and seems to protect the sutured duodenal mucosa. Another row of sutures buries this first row. Since this technic was adopted, the cases have been too few to estimate the eventual results, but I believe it will greatly diminish the incidence of recurrent ulcer, and may abolish it.

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[4] Lewisohn, Richard: The Frequency of Gastrojejunal Ulcers, Surg Gynec Obst **40**:70 (Jan) 1925

[5] Horsley, J S: A New Operation for Duodenal and Gastric Ulcer, J. A M. A **73**:575-582 (Aug 23) 1919.

[6] Dragstedt, L R, and Vaughn, A M Gastric Ulcer Studies, Arch. Surg **8**:791 810 (May) 1924

In operations for gastric peptic ulcers the work of the late W. L. Rodman should be borne in mind. Many years ago he recommended excision of the ulcer-bearing area in order to obtain the best results. This area, as we have seen, is the pyloric portion of the stomach, and its excision, as Rodman has suggested, seems necessary when there is a tendency to ulcer formation after septic foci have been eliminated.

To Jan. 1, 1924, I had been doing chiefly the Polya partial gastrectomy, or rather Balfour's modification of it, in which the jejunum is brought in front of the transverse colon and applied to the stump of the stomach. In my hands, this operation has not been always satisfactory. The two long limbs of jejunum over the transverse colon are sources of potential trouble. Entero-anastomosis between the two limbs of the jejunum as they cross the transverse colon may, of course, overcome some of the tendency to kinking and obstruction, and should always be done in the Polya-Balfour operation. This, however, tends to short-circuit at least some of the duodenal contents, and may predispose toward a jejunal ulcer by removing the protection of the alkaline duodenal contents that normally flow over that portion of the jejunum apposed to the stomach.[7]

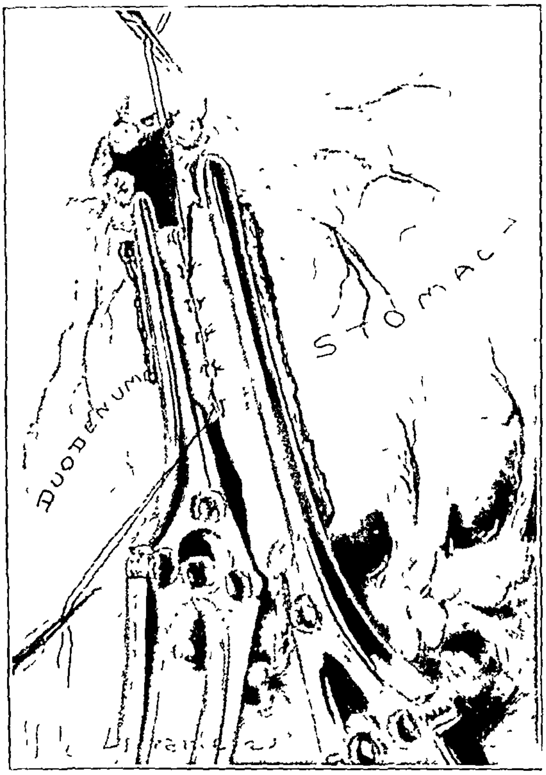

Fig. 2.—Modified Billroth I operation: The pyloric portion of the stomach has been resected, and the posterior wall of the upper portion of the stump of the stomach has been united to the posterior wall of the duodenum with interrupted mattress sutures of fine tanned catgut.

It is difficult to improve on the normal physiologic function of viscera, and if we can adapt operative procedures to physiologic function while correcting the pathologic conditions, it is always well to do so. The duodenum is the normal mixing chamber for the contents of the stomach and the duodenum, and the Billroth I operation preserves this. In the technic as originally described by Billroth, the stump of the duodenum was joined to the stump of the stomach along the greater curvature, and the upper portion of the gastric stump was closed down to the duodenum, where the line of sutures split as an inverted Y. At this spot where the three limbs of the Y converge, leakage often occurred. Another objection to this technic is that the anastomosis is along the greater curvature, whereas the axis of peristalsis is along the lesser. Then, too, in the Billroth I operation the infolding of the thick wall of the stomach in union with the thin wall of the duodenum often constricts the opening too greatly. I have modified this operation so that the stomach is united to the duodenum along the lesser curvature, and the lower portion of the gastric stump is infolded and further protected by suturing over it adjacent peritoneal covered fat. By these procedures the safety of the suturing of this region is assured. To avoid obstruction I make an incision in the anterior wall of the duodenum about an inch or an inch and a half long, which flares open the duodenum and gives a much greater caliber at the point of union with the stomach. Half of the stomach can often be resected and still joined satisfactorily to the stump of the duodenum by following this type of operation. The cardiac portion of the stomach may be mobilized by dividing any adherent band or incising the gastrohepatic omentum. The stump of the duodenum can be slightly mobilized by separating it from the surrounding tissue. It is better, however, to mobilize the gastric stump more freely than to attempt extensive dissection of the stump of the duodenum.

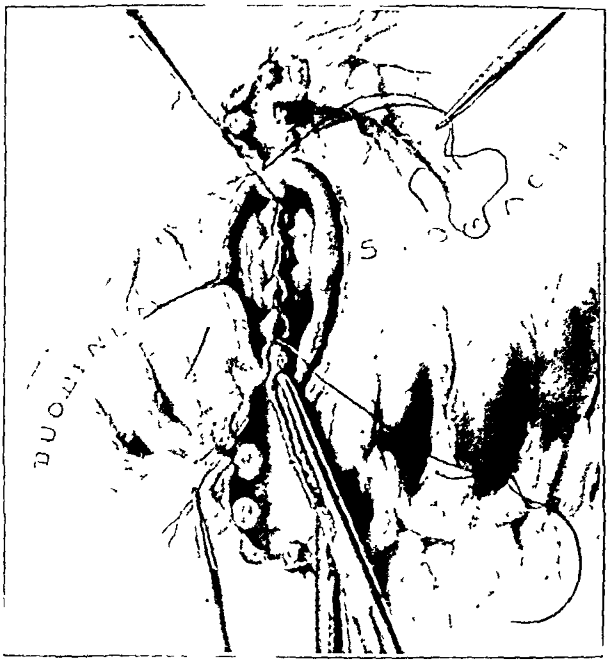

Fig 3—The posterior margin of the stump of the stomach is sutured to the posterior margin of the duodenum with a continuous lockstitch of no 1 tanned catgut When the lower border of the duodenum is reached, an incision about 1½ inches (3.8 cm) long is made into the anterior wall of the duodenum in order to flare it open and make the duodenal surface larger.

TECHNIC OF OPERATION

The gastrohepatic omentum is opened and the gastric arteries along the lesser curvature are doubly clamped and divided at the proposed site of division of the stomach and near the duodenum. The stomach is lifted up, *the gastrocolic omentum* is incised, and the vessels along the greater curvature are doubly clamped and divided. The lesser peritoneal cavity is packed off, and the clamped vessels are controlled by transfixing and tying the tissues around them with plain catgut in a needle. Two ligatures are tied on the larger vessels for additional safety. A small Payr clamp is placed on the duodenum near the pylorus, and soft-bladed forceps are applied close to the clamp The duodenum is severed with the electric cautery flush with the clamp.

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[7] Mann, F. C., and Williamson, C. S.: Experimental Production of Peptic Ulcer, Ann. Surg. **77**: 409 422 (April) 1923.

The pyloric end of the stomach is lifted up slowly, to avoid regurgitation of gastric contents into the esophagus and pharynx. If the stomach is distended, a Payr clamp may be placed on the body of the stomach before the pylorus is severed, though it is somewhat better to secure a good view of the posterior surface before this clamp is applied. After the clamp is on the body of the stomach, a pair of long soft-bladed forceps is placed close to the clamp, and the stomach is severed with the electric cautery flush with the clamp. The stump of the stomach is brought over to the duodenum, and the posterior wall of the upper portion of the stump of the stomach is united to the posterior wall of the duodenum with either a continuous mattress suture or a series of interrupted mattress sutures of 00 tanned catgut. The ends of the lower and of the upper sutures are left long (fig. 2). The Payr clamp on the stomach is removed and Ochsner forceps are placed on the crushed margin of the lower portion of the stump of the stomach while the upper part is opened and the stomach contents are removed with a suction apparatus. The Payr clamp on the duodenum is removed and the duodenal contents are drawn off with a suction apparatus. The upper border of the stomach at the lesser curvature is united to the upper border of the duodenum with a no. 1 tanned catgut suture, which is continued downward, on the mucous surface, uniting the posterior wall of the stomach with the posterior wall of the duodenum. When *the lower border of the duodenum is reached, an incision about* an inch and a half long is made in the anterior surface of the duodenum to flare it open (fig 3). This permits more duodenal surface to be united to the stump of the stomach, and so obviates undue constriction here. The redundant lower part of the stump of the stomach is closed by continuation of this suture over it to the greater curvature as an occluding hemostatic stitch, no effort being made to invert the tissues. The suture may then be doubled back on itself and carried anteriorly as a baseball stitch, uniting the anterior wall of the stomach to the anterior wall of the duodenum If the tissues are quite thick, it may be best to terminate this suture at the lower border of the stomach and use another suture to unite the anterior wall of the stomach to the anterior wall of the duodenum, beginning above and going down as a baseball stitch, catching all the coats of the duodenal and gastric walls (fig 4). As the pyloric portion of the stomach has been removed, the mucosa of the cardiac portion contained in the stump may be caught in the suture, as ulcers do not tend to occur in this region

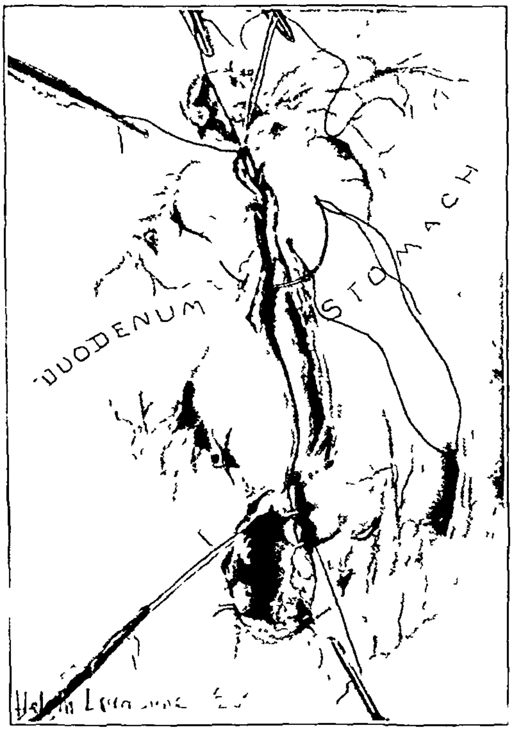

Fig 4—After the duodenum has been flared open, the suture unites the posterior wall of the duodenum still farther down on the stump of the stomach This prevents constriction at the junction of the stomach and duodenum A continuous suture is applied anteriorly, inserted as a baseball stitch, and drawn snugly In this way bleeding is controlled and at the same time this suture does not leave the rather large ridge of tissue which occurs after the application of the regular continuous suture or the lockstitch

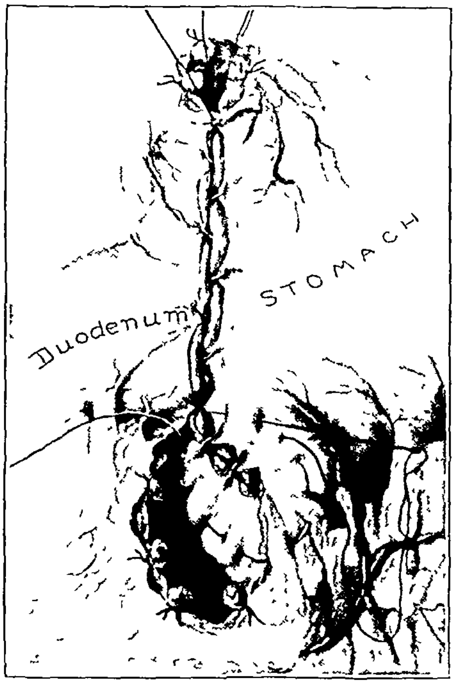

Fig 5—The redundant portion of the lower end of the stump of the stomach is invaginated with a purse string suture This suture is then continued upward as a right angle continuous suture, burying the inner row of sutures An additional mattress suture is placed at the lower border of the duodenum and also catches somes adjoining peritoneal covered fat in order to reinforce this point.

A purse-string suture invaginates the lower portion of the stump of the stomach along the greater curvature, and this suture is then continued anteriorly as a continuous right-angle suture, with a backstitch at intervals, burying the internal row of sutures, and is terminated at the lesser curvature (fig 5). A mattress suture is placed at the lower border of the duodenum still further to infold the tissues, and with this suture is also caught some neighboring gastrocolic omentum. If there is any weakness in the sutures or any unusual tension, *the whole anterior line of sutures can be covered with gastrocolic omentum*; but this is not necessary as a routine measure. At the upper border an additional interrupted mattress suture of 00 tanned catgut is *placed to strengthen the union at this* point, and the neighboring stumps of gastrohepatic omentum are caught in this suture.

From Jan. 1, 1924, to Jan. 1, 1926, I have done thirteen partial gastrectomies. In all of these cases the stump of the stomach was united to the duodenum.

In three the union was according to the technic of the Finney-Haberer operation, the end of the stomach being implanted into the side of the duodenum after it was thoroughly mobilized. In two of these cases the stomach did not empty satisfactorily, probably because in this operation the stump of the stomach is fixed to the side of the duodenum and so cannot fully contract, and as the circular fibers of the duodenum are divided this also partially prevents contraction. In one of these cases in which the emptying was not satisfactory, I think it is probable that I placed too many sutures at the lower margin of the wound and turned in too much tissue, so producing a partial obstruction. After gastro-enterostomy, however, these two patients made a smooth recovery, and when last heard from were complaint-free. One of these three patients had no trouble whatever either in the postoperative recovery or thereafter. In the other ten cases, operation was done by the modified Billroth I method that I have described.

Two of the three Finney-Haberer operations were for recurrent ulcer on the gastric side after pyloroplasty, and the third was for a "kissing" ulcer in the pylorus that had not been previously operated on. Of the ten modified Billroth I operations, three were for cancer and five for ulcer, one for torsion of the gastrohepatic omentum, and one for recurrent bleeding from erosion of the gastric mucosa following gastro-enterostomy.

REPORT OF CASES

T. M. H., a man, aged 69, whose case was reported before the Medical Society of Virginia in October, 1924, had an aortic valve lesion. A partial gastrectomy for rather extensive cancer was done under local anesthesia, and his pulse was not over 80 during the operation. He made an uneventful operative recovery, and left the hospital in good condition. For about three months his health was good. Then he developed symptoms and finally died at his home in the country about six months after the operation from what appeared to be metastases in the liver and mediastinum. There was no necropsy. The length of the stomach removed in this case was 16 cm. along the greater curvature.

C. H. M., a man, aged 55, had a very extensive carcinoma of the pyloric portion of the stomach. It was questionable whether a radical operation would be justifiable. There were some adhesions posteriorly. The adherent stomach was separated from the pancreas, and the modified Billroth I operation was done under local anesthesia. Before the stump of the stomach was united to the duodenum, a mass on the pancreas which was thought to be a metastasis was excised. There was considerable inflammatory infiltration around this. The pancreas was sutured and omentum was brought over it. The patient left the table with a pulse of 90, and in excellent condition. Two days afterward he developed symptoms of peritonitis with obstruction. Drains were placed and an enterostomy was done. The infection spread, however, and the patient died on the eleventh day after operation. Examination of the mass removed from the pancreas showed it to be inflammatory. The cancer was very extensive in the stomach, and there was much necrotic tissue. Saprophytic and other bacteria had evidently infiltrated the surrounding tissues and formed on the pancreas an inflammatory mass which was taken to be cancerous. Excising this mass stirred up the infection. Probably if it had been left, the patient would have made a satisfactory recovery.

The third cancer case was that of C. L. W., a man, aged 71. The operation was done under local anesthesia. The patient left the table with a pulse of 74. The specimen, consisting of about half the stomach, measured 23.5 cm. along the greater curvature. The patient made an uneventful recovery.

In one of the patients, a gastrectomy was done for strangulation of a part of the gastrohepatic omentum. One gastrectomy was for jejunal ulcer which followed a previous gastro-enterostomy, done elsewhere. In one of the cases there were two ulcers in the pyloric portion of the stomach; in another an ulcer in the lesser curvature was suggestive of malignancy. One partial gastrectomy was for a large ulcer in the posterior wall of the stomach, which had perforated and formed a cavity whose posterior wall was the surface of the pancreas and the surrounding tissue. The wall of the abscess was dissected out along with the specimen, which measured 18 cm. along its greater curvature. The patient, aged 65, had old pulmonary tuberculosis, and his general condition was not very good. The operation was done under ethylene anesthesia. He made a satisfactory recovery. One operation was for recurrent ulcer after pyloroplasty, and one was for bleeding from a lesion of the gastric mucosa about one year following gastro-enterostomy done elsewhere.

COMMENT

Since adopting this technic, I have not encountered any case of gastrectomy, even though the maximum specimen has been 23.5 cm. long, in which the stump of the stomach could not be united to the stump of the duodenum by this modified Billroth I operation. If, however, this is impossible, I believe that the Hofmeister operation, a modification of the Billroth II, would be the operation of choice. Instead of the stump of the stomach being sutured and an independent posterior gastro-enterostomy being done, as in the original Billroth II operation, the upper portion of the stump of the stomach is closed with sutures and the lower third is anastomosed to the jejunum. This is simpler than the original Billroth II and seems to be quite as efficacious. It must be recalled that the absence of peristalsis in the left third of the stomach does not necessitate the performance of an anastomosis in any particular axis, because here the contractions are tonic and gravity really helps, whereas in a region of the stomach with active peristaltic waves the anastomosis should be made as far as possible along the lesser curvature.

HEXYLRESORCINOL IN INFECTION OF THE URINARY TRACT

RESULTS IN SIXTY-THREE CASES *

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The most recent contribution to the legion of urinary antiseptics is hexylresorcinol, which was recently introduced by Leonard. As the use of this drug is still more or less in the experimental state, a report of results in the treatment of sixty-three cases of urinary infection, ranging from simple acute cystitis to chronic bilateral nephrosis of twenty years' standing, may be of timely interest. My results agree with those of Leonard in that acute vesical infections due to staphylococci have cleared up with hexylresorcinol very quickly and completely. Infections with *B. coli* were not as resistant to the bactericidal effect of the drug as our clinical impressions and the reports of Leonard would lead one to expect. In chronic mixed infections of the bladder and upper urinary tract, symptomatic improvement was achieved without much change in the urine so far as the bacterial or pus content was concerned.

Hexylresorcinol is an alkylized resorcinol. The resorcinols were first synthesized in 1913 by Johnson and examined by Rettger, who found that, as the series of alkyl resorcinols was ascended, the bactericidal properties of the product increased very rapidly. In 1914, Leonard undertook a biologic investigation of these compounds and found that, coincident with the sharp rise in bactericidal power, there was a sharp drop in toxicity. The hexyl derivative of resorcinol exhibited a phenol coefficient of 46, the bactericidal power of resorcinol being multiplied more than 150 times. The drug can be administered by mouth in large doses without apparent toxic effect. At intervals during the last ten years, Leonard has carried on extensive experimental work with this drug and others of the series of resorcinols to determine their bactericidal properties in the urine. He found that the maximal bactericidal effect of the resorcinol chain is reached in the sixth carbon atom straight chain derivative—normal hexylresorcinol. In addition to being a far more powerful germicide than any substance ever before described as possessing an equal degree of toxicity to animals and man, it meets the qualifications of an ideal urinary antiseptic. It is administrable by mouth, chemically stable, nontoxic in therapeutic doses, nonirritating to the urinary tract, bactericidal in high dilution in urine of any reaction, and is excreted by the kidney unchanged, in sufficient percentage to impart active bactericidal properties to the urine. The bulk of each dose is probably rendered inert as a chemical conjugate.

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* From the Section on Urology, Jackson Clinic.

In the treatment of practically every type of urinary infection with hexylresorcinol, I have found relief of vesical irritability to be the outstanding result. In most cases, frequent urination, burning and tenesmus are completely relieved. Many of the patients here reported had been treated with other forms of therapy without result, which made the success following the use of hexylresorcinol the more satisfying.

This symptomatic relief, while a virtue in itself, might be retroactive in that it might cause negligence in the search for obstructive lesions, which so frequently are important factors in infections of the urinary tract. The most thorough investigation for conditions interfering with normal urinary drainage and the institution of the necessary procedures to correct such conditions should be carried out in every case, especially when the history is of any duration. It cannot be emphasized too strongly that any drug therapy for urinary tract infections should be an adjunct to such procedures, and not a substitute for them.

Approximately 50 per cent of the patients in this series have had gastro-intestinal disturbances, varying from slight gastric distress to severe bloating, belching, nausea, vomiting and diarrhea. Perhaps these disturbances have been due as much to the oil in which the drug is suspended as to the drug itself. Practically all patients who had such difficulty did not digest fats easily and were generally subject to more or less gastric distress and constipation. By taking the capsules fully an hour after meals with milk instead of water, most of the patients were able to overcome these disturbances. Some of the patients have considerable difficulty in swallowing the large capsules; but if these are held in the mouth until soft, they are swallowed much more easily and seem to cause less distress.

Two of the sixty-three cases analyzed as a basis for this paper are not included in the tables. One of these patients, a pregnant woman with an extreme intoxication, was unable to tolerate the drug. In the other case, one of subacute trigonitis, cultures could not be made, but symptoms were completely relieved following the administration of hexylresorcinol for two weeks.

The site of infection in the urinary tract was: upper, two cases; lower, thirty-eight cases; upper and lower, twenty-three cases. Complications included ureteral stricture with hydronephrosis, vesical and ureteral calculi, hypertrophied prostate, bladder diverticuli, and vesical neck contracture. Appropriate treatment was instituted in all these conditions.

Of the three cases which showed no clinical improvement and in which the pus content and cultural findings of the urine remained unchanged, two were due to severe *B. coli* infections of the prostate and seminal vesicles complicating gonorrhea. The other case occurred in a frail elderly man with a marked vesical neck contracture, chronic, purulent cystitis, and bilateral pyonephrosis due to staphylococcic infection. Dilation of the vesical orifice or operative treatment to correct the obstruction was refused, and the patient remained on drug therapy for only twenty-four days.

Results of Use of Hexylresorcinol in Sixty-One Infections of the Urinary Tract

Staphylococcic Infections	Number	Per Cent of Total	Per Cent of Group
Cure	9	15	36
	9	15	36
	6	10	24
No change	1	1	4
Total	25	41	
B. coli Infections			
Cure	8	13	35
Clinical cure	6	10	26
Symptomatic improvement	7	12	30
No change	2	3	9
Total	23	38	
Mixed Infections			
Cure	2	3	15
Clinical cure	4	6	31
Symptomatic improvement	7	12	54
Total	13	21	

Two patients with tuberculous cystitis remaining after nephrectomy and ureterectomy were considerably relieved of tenesmus and frequent urination while taking the drug. Only one case is reported in this series. The urine in both cases contained a great deal of pus and showed a heavy growth of staphylococcus on culture. Under treatment, which lasted nine weeks in one case and twelve in the other, the urine became practically negative; although the cultures remained positive, the colonies were greatly reduced in number.

The average daily dose of the drug was from nine to twelve capsules. Each capsule contains 0.15 gm. of hexylresorcinol. The dose was determined by the patient's tolerance and the virulence of the infection. Without question, the higher the concentration of the drug in the urine, the quicker and more complete is the therapeutic effect. In the acute cases, most of which were due to staphylococcic infections, treatment was continued from seven to thirty days. Although the drug was given for an average of from thirty to sixty days in most of the chronic cases, it was necessary to prolong treatment for four or five months in a few very resistant infections. When infections have been present for years with extremely unpleasant symptoms, most patients have secured sufficient relief, so that they do not consider the prolonged treatment a burden. The expense of the drug is probably its greatest objection, for which reason fifteen of the patients were obliged to discontinue treatment.

Types of infection in which beneficial results cannot be expected are (1) infections of the kidney, (2) renal and bladder tuberculosis, (3) infections of the prostate and seminal vesicals, and (4) gonorrheal urethritis. It seems self evident that in infections of the renal substance, the prostate and the seminal vesicles, the drug is not brought in contact with the offending bacteria in sufficient concentration or for sufficient length of time to have an inhibitory or lethal effect. Also, urine containing the drug does not come in contact with invading organisms in the urethra for a sufficient length of time to exert a bactericidal effect.

In infections of the mucous membrane of the bladder and upper urinary tract, however, conditions make possible the contact of urine containing a germicidal drug for relatively long periods of time, and if the drug is in high enough concentration, definite lethal or inhibitory effects may reasonably be expected. Hexylresorcinol should be used in keeping with Leonard's suggestion that fluid intake be reduced to insure as high a concentration of the drug in the urine as possible.

In practically every particular, my experience leads me to endorse Leonard's claims for hexylresorcinol, which undoubtedly may be considered a most valuable adjunct to our present means in the treatment of infections of the urinary tract.

THE TREATMENT OF ACUTE TRAUMATIC CRANIOCEREBRAL INJURIES *

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In presenting such a subject as the treatment of acute traumatic craniocerebral injuries, just as great a difficulty lies in the selection of a descriptive term to include the entire field as in the universal acceptance of a uniform, proper treatment in this condition. The term fractured skull no longer conveys the true significance of the injury in that no provision has been made for the possible associated trauma of the intracranial contents. To employ the term acute brain injuries also bears the same objectionable defect in clarifying the picture by omitting the state of the calvarium. Thus, it appears to me that the term craniocerebral not only is descriptive but also covers every contingency possible in head injuries.

In attempting to discuss a rational procedure for the proper treatment of acute brain and skull injuries, one is immediately confronted with the existence of many diversified methods of treatment in vogue at the present time. Whenever such a discord exists and a generalized routine measure of therapy is not adopted or accepted by the majority of the profession, it merely indicates a lack of the proper comprehension of all the pathologic phases or pathogenesis of the condition, and it is to be expected that when such a state of turmoil is present every surgeon will naturally differ not only in his therapy but also in the time of application of his measures. The therapeutic indications become a matter of individual and personal equation. Such a situation should now be obsolete, and definite laws for the treatment of craniocerebral injuries should be as well established and firm as the treatment of acute appendicitis. To elucidate what is implied above, a single illustration will suffice for our purpose here. For instance, in the treatment of acute cerebral edema some men advocate dehydration solely in one form or another; others rely only on repeated lumbar punctures, while still others resort indiscriminately to operative measures and yet another group institute practically no treatment at all except rest in bed, with an ice cap and general observation, which at times really constitutes nothing more than ignorance and criminal negligence. Yet each group can not be entirely wrong all the time. They all possess their merits, which if incorporated into one plan of treatment would produce the ideal that we are seeking. The essential policy for us is to learn what to do and when to do it, so that the patient will derive the most benefit from our treatment and will be returned to as near economically and emotionally normal as possible under the varying circumstances of the nature of the trauma.

In dealing with a subject of this kind, the question of the degree of importance attached to skull fractures per se, aside from depressed fractures, immediately presents itself not only to the physician but also to the layman. We should all now be past that stage when the term fractured skull, except depressed fracture, looms up as a skyscraper in importance in acute traumatic craniocerebral conditions. Those of us who treat many cases of head injuries have come to realize that the patient is far more fortunate with a fractured skull, when a cerebral complication is concomitant, than without it. Very often his life is spared because of nature's method of decompression established by the fracture, and at other times surgical intervention is necessitated; the former is a natural decompression whereas the latter is an artificial one.

To portray lucidly the many angles of this important topic, it is essential, before proceeding any further, to classify or subdivide the types of cranial fractures with their possible complications which come under our observation. Fractures of the skull are divided into (1) depressed fractures, (2) linea fractures of the vault and (3) fractures of the base of the skull. Any of these may be associated with an intracranial complication such as hemorrhage, cerebral edema, laceration and contusion of the brain or infection, either primary or secondary. The treatment of the clean and simple cases will receive our consideration first, as they predominate, and the modification and alteration of the outlined therapy will be presented when the complicating factors enter into this picture.

DEPRESSED FRACTURES AND COMPLICATIONS

Depressed fractures may involve either the outer table alone or the two tables conjointly. In the former condition, unless there are other associated superficial cranial or cerebral symptoms or signs present that warrant surgical or operative intervention, it is advisable to treat the patient symptomatically.

Before we proceed to discuss any of the many complications that may ensue, let it be understood from the start that any patient in shock is not to be disturbed for any reason whatever, but that all efforts are to be bent toward combating the shock. Rest in bed in the Trendelenburg position, hot water bottles and heated blankets, morphin for restlessness, the rectal drip with glucose, saline or Ringer's solution, blood transfusion or intravenous infusion of glucose or Ringer's solution, depending on the severity of the shock, are the only measures permissible and indicated. After the patient recovers from that initial exhausted condition, examinations of various kinds are the routine procedure.

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* Read before the meeting of the Erie R. R. Surgeons' Association, New York, Oct. 8, 1925.

If a hematoma has accumulated over the depressed fracture of the outer table, aspiration of the blood should first be attempted, and if that is unsuccessful, incision and evacuation of the clot is indicated. Blood, whether in fluid form or in coagulation, is an excellent culture medium for the development and propagation of bacteria. Infection in this locality is conducive toward the production of osteomyelitis, meningitis or intracranial abscess. The prognosis of such a group of possible complications is very often fatal as far as life is concerned or, if life is spared, is very detrimental for an ultimate, uneventful return to normality. If, however, an infection has been superimposed either through a lacerated scalp as a portal of entry or through an improperly treated subcutaneous hematoma overlying and accompanying the depressed fracture, the traumatized area should be widely incised, the fractured fragments of the outer table removed, and the wound drained as an infection in any other site would be. Should an osteomyelitis supervene, both tables of the calvarium must be removed in spite of the fact that the outer table alone is fractured. It is advisable to remove all the bone for several centimeters outside the infected area.

When the inner table is depressed along with the outer one, the depressed bone must be removed regardless of whether the site of trauma is clean or infected. The incision in the scalp should be made through the clean field and if, infection being present, it is necessary to make a flap of scalp in order to approach the depression through a clean site, then the flap method should be utilized; a most convenient flap in this situation is a horseshoe flap. The infected portion of scalp can be excised before the flap is returned and sutured. Failure to elevate or remove the clean depression may be the cause of future localized adhesions, chronic encysted subdural hemorrhage, general increased intracranial pressure, post-traumatic epilepsy or psychosis, or bone neoplasm; the latter, although perhaps a remote and hypothetic possibility, is of sufficient importance to warrant consideration.

In dealing with this type of fracture, it is essential to determine the presence or absence of cerebral edema and intracranial hemorrhage before resorting to operative measures. If the former condition is associated with the initial depressed fracture, medical treatment should be instituted toward the reduction or eradication of the cerebral compression. The treatment of the depressed area can be deferred until the nonoperative measures directed toward the elimination of the increased intracranial pressure have been tried and their results determined. If the medical therapy has removed the complicating cerebral edema, we are then at liberty to deal operatively with the depressed site. If the brain edema persists in spite of the nonsurgical therapeutics employed, a subtemporal decompression must be performed preceding the removal of the depressed fracture; otherwise the brain is very likely to herniate through the opening in the skull made by the removal of the depressed fracture before the increased intracranial pressure has been relieved and has thus created irreparable damage to brain tissue. Both procedures can be completed at one sitting.

If intracranial hemorrhage complicates the picture, its removal is first attempted by means of repeated lumbar punctures; and if that fails, or if it is felt that the middle meningeal artery has been lacerated or that an extradural or subdural hemorrhagic clot has accumulated, cranial drainage by means of a subtemporal decompression and ligation of the artery in question is indicated.

If infection supervenes, the usual drainage for pus is instituted as elsewhere in addition to treating the primary complaint.

LINEA FRACTURE OF THE VAULT AND ITS COMPLICATIONS

Persons sustaining cerebral injuries more serious than that of concussion are more fortunate than not if a linea fracture of the vault of the skull accompanies their brain trauma. The severer forms of brain injuries lead to cerebral and medullary edema. With an intact calvarium there are no natural outlets sufficient to drain the edema satisfactorily, and the death of the patient is generally the outcome, especially if medullary edema has occurred. A linea fracture is an additional avenue for the escape of the excess cerebrospinal fluid, and cerebral compression may be avoided. A linea fracture acts in a limited manner as a decompressive measure and very often is sufficient to overcome the cerebral compression to the degree of obviating any operative intervention. Should the intracranial pressure increase in spite of the drainage afforded by the fracture, a subtemporal decompression must be performed.

The treatment of the linea fracture requires no especial attention aside from rest in bed and careful watchfulness for any of the possible associated complications that may arise.

Intracranial hemorrhage, cerebral edema, cerebral injury and infection will be discussed in separate paragraphs.

FRACTURES OF THE BASE

Fractures of the base are usually through the middle fossa, although the anterior and posterior fossa are at times involved. An extension of the line of fracture into the cribriform plate may produce a cerebrospinal rhinorrhea which may last a varying period of time. A posterior fracture is very apt to lead to a rapidly forming medullary compression necessitating a suboccipital decompression, which should be performed before the onset of a medullary edema which, in most instances, signifies the termination of life. Fractures through the middle fossa, the most common type, may have injuries to the facial and auditory nerves associated with them. Both may be involved as a result of an edema existing in the facial and auditory canals or as a result of a direct trauma to those nerves, caused by the line of fracture passing through those canals. The involvement of those nerves may be transient or permanent. Intracranial hemorrhage is in most instances found in the fluid removed at lumbar puncture, and the severity of the extravasation of the blood varies, depending on whether the middle meningeal artery has been injured, a cerebral vessel torn or whether small tributaries have been ruptured in the laceration of the dura.

No treatment is applied directly to the basal fracture itself, but any one of these many complications may require drastic and immediate attention.

INTRACRANIAL HEMORRAGE

Intracranial hemorrhage may be extradural, subdural, subarachnoid or intracerebral. In extradural hemorrhage the middle meningeal artery is usually the source of the trouble, and a proper cranial exposure must be made to ligate the vessel and remove the clot. Subdural hemorrhages result either from an injury t the meningeal artery or from the rupture of the pial vessels with a laceration of the arachnoidal membrane, permitting the bloody extravasation to enter the subdural space. Chronic subdural hematomas,[1] resulting from such bleeding, are very often overlooked at the time of the initial injury because of the triviality of the trauma or because of the neglected cranial drainage. Within a period of weeks or months and even, in a few rare instances, years,[1] this condition gradually produces cerebral compression. The symptoms, often occurring weeks or months following an insignificant and forgotten cranial injury, may at first lead us to suspect that the person is a neurotic. It is only after careful observation and thorough neurologic examinations that the true nature of the situation is detected. This particular pathologic state must be constantly borne in mind, especially by railroad surgeons. It is an important diagnosis for us to be able to make early in order that proper treatment may be rendered as soon as possible so that the permanent residuals of such a condition may be obviated or, at least, lessened. Intracerebral hemorrhages create permanent and irreparable damage. They are due to injuries to the cerebral vessels.

Hemorrhages in the acute stage are intrathecal and very frequently are demonstrable at lumbar puncture. Drainage of the nonprogressive hemorrhage should at first be attempted by means of repeated spinal punctures performed daily or even oftener, depending on the severity of the hemorrhage. If the signs of cerebral compression supervene in spite of the lumbar drainage with the removal of bloody cerebrospinal fluid, or if the percentage consistency of the blood in the cerebrospinal fluid fails to decrease daily with repeated lumbar punctures, cranial exploration and cranial drainage are compulsory to control the bleeding and to evacuate the clot. If repeated spinal drainage suffices to remove the hemorrhage and no increase in the intracranial pressure is evinced, then further intervention is contraindicated with the exception of observation with the patient in bed.

CEREBRAL EDEMA

The treatment of brain edema has made startling advances in the last decade. Not alone that but also the determination[2] and detection[3] of the gradual increasing intracranial pressure has been so simplified that it is within the reach of every surgeon to measure accurately the degree of cerebral compression. The spinal mercurial manometer should be one of the most important diagnostic instruments in the armamentarium of the neurosurgeon in doing acute traumatic craniocerebral work. This instrument is more delicate, more accurate and earlier as well as more reliable in discerning increases in intracranial pressure than the ophthalmoscope. Surgeons engaged in this particular field of work should become more familiarized with the apparatus, and its utilization early in every case may very often be not only the cause of saving life but also of returning the injured to economic and emotional normality.

Many new measures have been introduced with which we are now much better fitted to combat and often overcome this dreaded cerebral edema. With the introduction of dehydrating fluids, experimentally supported by clinical usage with good results, we have been equipped with another life saving remedy. The most important of these are hypertonic sodium chlorid (15 to 30 per cent.) solution, hypertonic Ringer's solution and concentrated glucose solution (50 to 100 per cent.) intravenously, sodium sulphate, magnesium sulphate and sodium chlorid by mouth and magnesium sulphate by rectum in the form of high enemas. The literature has become too abundant on this subject to discuss it in detail in this paper. What I shall attempt to do will be to present the safest and most conservative measures that are employed at present.

Magnesium sulphate in concentrated solution is best given by rectal enema every four hours; this is productive of the best results in one hour and does not cause any initial rise in intracranial pressure, which all intravenous solutions, without exception, do. This method of administration is also free from any toxic effects as it is nondialyzable[4] and cannot, therefore, enter the blood stream. Concentrated glucose given intravenously is nontoxic and can be used in large quantities as well as rapidly given. Its effect is also very marked in the reduction of increased intracranial pressure which persists for a very long time, although it has the disadvantageous feature of all intravenous procedures; namely, the production of an initial rise in pressure. Intravenous sodium chlorid solution is being discarded more each day, as it possesses many disagreeable possibilities. First, it is toxic[5] and may produce a secondary brain edema[4] which is apt to become permanent; second, it produces an initial rise in pressure which is most undesirable; and, last, it is apt to exacerbate cardiac and respiratory difficulties. Naturally, it cannot be employed in known cases of nephritis. It must be said for salt, however, that it is a powerful dehydrating agent. To sum up the salt treatment, we may safely say that magnesium sulphate given rectally is the advisable drug to use.

Repeated lumbar puncture as a means of lowering increased intracranial pressure is not at all a new procedure and is still one of our helpful and successful methods. If this treatment in itself is insufficient to overcome the cerebral compression, it may be used to supplement the Epsom salt. The two can very easily and profitably be employed together. The manner in which repeated spinal drainage should be utilized is that with cerebral edema existing, the manometric pressure should be taken and sufficient cerebrospinal fluid removed to lower the pressure one half of what it was at the start.

Depending on the rapidity of the reformation of the cerebrospinal fluid and on the severity of the returning signs of compression will the time interval and frequency between lumbar punctures be best judged. Repeated spinal punctures will therefore be performed every six to twenty-four hours. At each lumbar tap enough cerebrospinal fluid is withdrawn to lessen the pressure to just one half; this is continued until the normal is ascertained. As mentioned previously, Epsom salt by rectum may be used in conjunction to facilitate and hasten the return to normal. When the combined efforts of repeated lumbar punctures plus the vigorous salt dehydration fail to secure desirable results, decompression must be resorted to. In cases of cerebral edema, either a unilateral or a bilateral subtemporal decompression is absolutely essential. In those cases in which medullary compression has occurred, it would be advisable to perform cisterna magna punctures, withdrawing the fluid with very careful attention to the character and nature of the pulse and respiration. Rand and Nielsen[6] employed this means on two moribund patients without any success. They warn against the dangers that may result from such a procedure. Although I have not had the opportunity of performing the cisterna puncture in any such case, yet theoretically I feel that the sudden deaths that occur from the too sudden release of fluid from the cisterna cerebellomedullaris can be safely avoided if the patient should be placed in the Trendelenburg position during the entire performance of the act. If this suggested treatment should result favorably in the future, it will give the patient just one more chance to be in better condition for operation. When medullary compression has supervened in a traumatic injury, suboccipital decompression is the only real therapeutic measure left at our disposal; and if, by cisterna punctures, we can alleviate the compression sufficiently to improve the patient's condition for operation, I feel that it should be tried. If the stage of medullary edema has been entered, almost everything will be futile; yet cisterna punctures should be performed in the hope, rather than the expectation, that the patient may sufficiently rally from that state to make the operation a possible rather than a probable success. When medullary edema persists in spite of all treatment, operation is absolutely contraindicated.

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[1] Putnam, T. J., and Cushing, Harvey: Chronic Subdural Hematoma, Arch. Surg. **11**:329 (Sept.) 1925.

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[4] Fay, Temple: Administration of Hypertonic Salt Solution for Relief of Intracranial Pressure, J. A. M. A. **80**:1445 (May 19) 1923.

[5] Peet, M M.: Reduction of Increased Intracranial Pressure, J. A. M. A. **84**:1994 (June 27) 1925.

CEREBRAL DAMAGE

When contusion and laceration of the brain have occurred, there is nothing to advocate for those injuries directly except cleansing the field of the accompanying hemorrhagic clots and permitting drainage for any postoperative oozing or edema that might occur, as all the nerve tissue injury is permanent. The lesions themselves must be left to nature to repair in her own way. The resultant scar tissue may either be the cause of future epilepsy or may not give rise to any symptoms whatever.

INFECTION

If the calvarium adjacent to the fracture or underlying an infected scalp becomes itself infected to the degree of an osteomyelitis, it must be removed entirely and the site drained. If the infection has proceeded deeper and involved the brain to the extent of the development of a brain abscess, evacuation of the pus and drainage through a clean field must be immediately instituted. Brain abscess complicating craniocerebral injuries carries with it as high a mortality as brain abscess due to any other cause. The warning should be in the prophylaxis to attempt to prevent the formation of an abscess as far as possible by properly treating the scalp and any hemorrhage that may occur in the subcutaneous tissues. The hematogenously borne cerebral abscesses are not preventable and are not due to any fault or negligence on the part of the surgeon.

CONCLUSIONS

1. Skull fractures in themselves are not fatal; it is the accompanying complications that render these cases so disastrous.
2. Head injuries, if severe, have a more favorable prognosis if a linea fracture of the vault is present to assist, as far as possible, in the prevention of the formation of cerebral edema.
3. Hematomas of the scalp overlying fractures should be evacuated to prevent infection.
4. Intracranial hemorrhage should be drained either by repeated lumbar punctures or, if that fails, by cranial drainage.
5. Cerebral edema is best treated by dehydration, with epsom salt by rectum, repeated lumbar punctures and subtemporal or suboccipital decompression as the occasion may demand.
6. The spinal mercurial manometer and its interpretation are absolutely essential to determine the accurate degree of intracranial pressure.
7. Operation is contraindicated in shock and medullary edema.
8. Contusion and laceration of the brain are healed by nature.
9. Osteomyelitic bone must be removed.
10. Brain abscess must be drained through a clean field.

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NARCOLEPSY OCCASIONALLY A POST-ENCEPHALITIC SYNDROME *

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Since Gélineau described narcolepsy in 1880, the recognition of this disorder as a distinct entity has been much disputed. By some it has been considered a symptom-complex occurring with epilepsy or hysteria.

In narcolepsy the patient not only drops off to sleep at frequent and often at most inopportune times, but also he may experience a sudden feeling of weakness, even paralysis, from emotional disturbance, especially laughter, and the lower limbs may give way beneath him. This has been described as the cataleptic paralysis of Henneberg or as blockage of tonus. There is also a persistent muscular asthenia which is present even after the night's sleep. The patient may go to sleep while walking in the street or eating, or even when his position may expose him to great danger of death, as in case 2, in which a locomotive fireman would fall asleep while holding to the grabirons by which he climbed on to the locomotive and while it was going, as he stated, at a speed of about 70 miles an hour. In some instances, shaking or pinching will arouse the sleeper. The sleep appears to be natural, and there may be dreaming, usually of an anxious character.

Even in normal persons great emotion, such as joy and especially fear, may cause a feeling of weakness. We speak of being "paralyzed by fear," or we may hear some one say that he "laughed until he was weak." This fear paralysis is seen in animals, as when a small animal is unable to escape from an approaching snake. In narcolepsy the cause of the weakness may be trivial, as the meeting with strangers, or even friends. Mental and physical rest may in some instances lessen the severity of the attacks, but one of my patients found that he had the same tendency to drop off to sleep after he had slept twelve hours at night.

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[6] Rand, C. W., and Nielsen, J. M.: Fracture of the Skull, Arch. Surg. 11:434 (Sept.) 1925.

* Read before the Philadelphia Neurological Society, Nov. 20, 1925.

Cases of typical narcolepsy following an attack of epidemic encephalitis are rare, but Redlich remarks that some cases have been reported in which, following an attack of epidemic encephalitis, short attacks of sleep occurred several times daily, which disappeared after a few weeks. He had described such a case previously, and recently he observed a case in which epidemic encephalitis occurred in 1920 and was followed by a paralysis agitans syndrome and typical narcoleptic attacks persisting a long time, until treatment in a hospital apparently effected a cure. He refers to a similar case reported by Stiefler. Another reported by Siebert seemed to follow grip rather than encephalitis.

Stefano Perrier[1] has reported two typical cases in which narcolepsy occurred soon after an acute attack of epidemic encephalitis, with as many as twenty or thirty attacks in a day, and in one of these cases the patient, a soldier, went to sleep while on guard. These two cases presented no other sequel of encephalitis.

Narcolepsy has usually been regarded as a very rare condition, although Redlich[2] has recently reported eleven cases observed by him, seven of which occurred since the recent war, and he remarks that narcolepsy no longer can be regarded as an extreme rarity. A few years ago it was exceptional for a neurologist even with a large experience to see a case of typical narcolepsy. I have been impressed by the fact that at least three cases have come under my observation within a year, and about a year ago I received a request to diagnose a typical case described to me in a letter. In none of my three cases has a clear connection with epidemic encephalitis been established, as Redlich and Perrier were able to do. In case 2 the history of an attack of influenza in 1918 and of diplopia at some uncertain time, apparently in connection with the onset of the attacks of sleep, is very suggestive of epidemic encephalitis, and it is to be recalled that in the two cases reported by Perrier in which the connection with encephalitis seemed well established, nothing beyond the narcolepsy indicated a previous encephalitis.

It would be assuming too much to assert that narcolepsy is always a postencephalitic syndrome, but it seems desirable to recognize that it may occasionally be such a syndrome and to be alert for it, especially since Redlich holds out hope of recovery in such cases. It is interesting that in cases 2 and 3 the sleep at night was interrupted, suggesting the inversion of sleep from night to day frequently observed in epidemic encephalitis.

REPORT OF CASES

Case 1.—J. M., a man, aged 28, who came to the dispensary for nervous diseases of the University Hospital only once, Sept. 22, 1924, had been complaining of sleeping excessively for a year and stated that the condition was getting worse. He would go to sleep while working on a scaffold or while eating. He had tried going to bed early so as to obtain twelve hours of sleep at night, but this did not prevent him from sleeping during the daytime. The only time he was confined to bed for sickness was in 1917, when he had an acute respiratory affection, possibly pneumonia. The blood Wassermann reaction was negative. When he became drowsy he frequently felt weak in the knees, as if they might give way under him. Sometimes he felt weak all over, and then he found it difficult to walk, especially in gunning for reedbirds. The excitement of gunning probably assisted in the production of weakness.

Case 2.—H. L. J., a man, aged 22, came to consult me, July 2, 1925, referred by Dr. William H. Speer of Wilmington, Del. He was somewhat uncertain as to the onset of his symptoms, but he said he was perfectly well until three or four years previously. About that time, while on a vacation, he noticed that when he laughed he became so weak he would fall down. At that time, or possibly earlier, he had diplopia. He gave no history of an acute disease, but said he had had influenza in 1918. About the time that he noticed the weakness after laughing he became drowsy, and the drowsiness has continued until the present time, without modification. When he was under my observation, he slept a great deal. I found him asleep while he was in my office waiting to see me, in the morning. He was asleep when I came to examine him in the hospital at 9 o'clock in the morning. He said he felt tired and weak when he arose. When he bathed at a public beach he would feel weak, because of the association with other people. Sometimes when he met a friend on the street unexpectedly he would become very weak, and he has fallen often when he had these sudden attacks of weakness. He has gone to sleep while holding on to the grabirons of a train said to be moving at a speed of about 70 miles an hour. He is a fireman on a locomotive. He has gone to sleep while driving an automobile, but still drives one. He has continued as a fireman, and on every run during the last three or four years he has fallen asleep three of four times, in a trip lasting from eight to twelve hours. He has often gone to sleep while standing in a room full of people talking, or he has fallen asleep while eating, and his head has dropped into his plate. He has fallen out of a canoe while sleeping. He has not slept soundly at night.

He described his dreams at night as frightful, and usually some one seemed to be attempting to injure him. When his drowsiness began he was getting little sleep in the twenty-four hours.

He was a powerfully developed man physically, and apart from the symptoms mentioned I could find nothing abnormal; he had no signs of a previous encephalitis other than the narcolepsy. The blood Wassermann reaction was negative.

Case 3.—P. M., a boy, aged 15 years, who came into my service at the University Hospital, Sept. 28, 1925, began to have sleeping attacks in February, 1925. He would fall asleep any time of the day regardless of what he was doing, when eating, walking or driving a car. The attacks would come suddenly and he would sleep from ten to fifteen minutes. He has never fallen during an attack, as he is awakened immediately if he begins to fall. His sleep at night has been interrupted. The attacks of sleeping in this case are not so severe as in many cases of narcolepsy, and while he was in the hospital he usually was found awake. I felt that he was improving.

When he laughed heartily or became angry, he felt weak in his lower limbs, as if his knees would give way under him. He had no other signs of disease, and no history suggesting epidemic encephalitis could be obtained.

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Chinese Medical Sayings and Proverbs.—1. The "superior man," if disinclined for official life, will practice medicine (for the doctor also can serve the people). 2. A good doctor is equal to a good premier. 3. If I cannot aspire to be a good statesman I will be a good doctor. 4. One who serves one's parents should not be ignorant of medicine. 5. The doctor controls life and death. 6. Only the healing art enables one to make a name for himself and at the same time give benefits to others. 7. Mathematicians, surveyors, fortune tellers, physiognomists, physicians and magicians were charlatans. The sages did not regard them as educated. 8. Priests and doctors employed poisonous drugs to drive and expel disease; hence the ancients despised them and assigned them a low position in society. 9. Sun Szu-miao was a noted doctor of literature of the Tang dynasty. But as he took up medicine as a profession he was relegated to the class of artisan. What a pity! 10. Medicine is one of the nine low trades.—*China M. J.* **39**:1099 (Dec.) 1925.

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[1] Perrier, Stephano: Les narcolepsies postencéphalitiques, Rev. neurol. **1**:1056 (June) 1925.

[2] Redlich: Ueber Narkolepsie, Ztschr. f. d. ges. Neurol. u. Psychiat. **95**:256, 1925.

MIGRAINE WITH ABDOMINAL EQUIVALENT

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In a previous communication,[1] a series of twenty-two cases of migraine was reported in which the abdominal symptoms dominated the clinical picture. Great care was used to exclude organic disease of the nervous and other systems by physical examination and other tests and by prolonged observation in many instances for a number of years. It was also pointed out that, with the exception of the few cases reported by Moebius,[2] Schmidt,[3] Ortner,[4] Kuttner,[5] Bary,[6] Mendel,[7] Curschmann,[8] and Bordoni,[9] comparatively little mention is made in the literature of migraine cases in which the abdominal symptoms replaced the hemicrania or greatly overshadowed the headache. The exhaustive monographs of Liveing [10] and Flatau [11] give only scant mention to the form of migraine under discussion. A study of the literature since the date of our previous publication reveals only two additional reports on migraine with pronounced abdominal phenomena—one by Buchanan [12] and another by McVicar.[13]

This scarcity of the literature describing the form of migraine under discussion is probably one of the reasons why the condition is not recognized more frequently, and why migraine with pronounced abdominal symptoms has been mistaken for attacks of gallstone colic, gastric ulcer and various other conditions for which operation has sometimes been needlessly performed. Our experience with ten additional cases, in which five patients were operated on without anything abnormal being found anatomically, prompts us to report these cases somewhat in detail, in order to emphasize certain features that may be of value in the diagnosis of this condition. The same care was taken in these ten cases as in our previous series to exclude organic disease of the nervous system or in other parts of the body.

REPORT OF CASES

Case 1.—A man, aged 33, whose father had severe migraine since early childhood, whose mother was very nervous, and who had one brother and three sisters that had had definite attacks of migraine, began at 14 to have attacks of frontal headaches, occurring on either side but more often on the left, and accompanied by scotomas, nausea and occasionally by vomiting. The attacks would last several hours or a day and would occur perhaps once in two months. Sleep produced relief. When the patient reached the age of 21, the headaches became less severe, but the nausea and vomiting were more pronounced; when he was about 25, the headache disappeared almost completely. The attacks now consisted of severe pain in the epigastrium and right hypochondrium, irrespective of the type of food eaten. Abdominal tenderness, nausea, eructations and vomiting accompanied the attack, which lasted almost four days and which was relieved by sleep. The attacks occurred nearly every six weeks, and there was complete freedom from symptoms in the intervals. A diagnosis of gastric ulcer was made, and the patient was placed on ulcer management three times during the next three years. Nothing abnormal was found as a result of test meals or fluoroscopic examination, but the attacks became more severe. An exploratory operation was then performed but nothing abnormal was found. The patient has since been on cannabis medication, with considerable improvement, so that he now has only an occasional attack.

Case 2.—A woman, aged 46, whose mother, father, one sister and two brothers had had migraine, had suffered from it since she began to menstruate at the age of 13. The attacks were typical until five years before I saw her, when the headache became less severe. About three years before, the patient began to have attacks of abdominal pain, with nausea and vomiting, lasting approximately three days and occurring about every two weeks. Nothing abnormal was found on physical examination, but the attacks were so severe that a diagnosis of hepatic colic was made and an exploratory operation performed. Nothing abnormal was found, and the attacks became much worse in the two years following the operation. She was given tincture of cannabis, 5 minims (0.3 cc.) three times a day, and this was increased 1 minim (0.06 cc.) per dose daily until the point of intoxication was reached, when the dose was decreased by 15 minims (0.9 cc.) and again increased gradually as before. The attacks now occur about once in four months and are very much less severe than formerly.

Case 3.—A man, aged 42, whose mother had painful attacks of head migraine with frequent abdominal attacks similar to those complained of by the patient, began, at the age of 20, to have attacks of severe abdominal pain with nausea and vomiting, lasting from one to one and a half days. Food had apparently no effect on the pain, but relief was obtained at night. A slight dull headache with blurring of vision occasionally accompanied the abdominal pain. The attacks occurred about once in four months at first, but, when the patient was 40, they became very severe and occurred every two or four weeks. Examination revealed nothing abnormal except a diminution of the hydrochloric acid in the stomach contents. A diagnosis of gallstones was made and an exploratory operation was performed, at which nothing abnormal was found, but the gallbladder was removed. The attacks continued after the operation, but the patient has been taking cannabis for the last eight months with the result that he has had only two mild attacks during this time, each lasting but a few hours.

Case 4.—A woman, aged 45, whose father, brother and sister had attacks of migraine, had had typical migraine since the age of 14. The attacks occurred once in three or four months, lasted several days and were always relieved by sleep. The headache became less noticeable when the patient was 22, a few months after marriage, but the nausea and vomiting became more severe and more frequent and were associated with epigastric pain, which lasted several days. When the patient was between 22 and 35, the abdominal pains became even more severe, so that a diagnosis of gallstones was made and an exploratory operation was performed. Nothing abnormal was found and the attacks continued with the same severity until the age of 43, at which time she had her menopause The attacks are now less severe and occur at longer intervals.

Case 5.—A woman, aged 46, whose mother and two sisters had migraine, at the onset of her menses began to have attacks of severe frontal migraine with slight nausea and infrequent vomiting, but no abdominal pain. The attacks frequently occurred between menses as well as during the menstrual periods and gradually became much worse, until the patient was 18, at which time the headaches rather suddenly became much less severe, but the nausea and vomiting increased. Very painful abdominal cramps with some tenderness now occurred during the attacks, which lasted two or three days, but the headaches disappeared after one day.

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[1] Brams, W. A.: Abdominal Migraine, J. A. M. A. **78**: 26 (Jan. 7) 1922.

[2] Moebius, in Nothnagel's Spezielle Pathologie, Vienna, A. Hölder, **12**, part 2.

[3] Schmidt, A.: Med. Klin. **7**: 1932, 1911.

[4] Ortner, N.: [illegible] der innerer Krankheiten, Vienna, Urban and [illegible]

[5] Kuttner, L.: [illegible]

[6] Bary, A.: Neurol. Zentralbl. **14**: 251, 1895.

[7] Mendel, E.: Deutsch. med. Wchnschr. **32**: 785, 1906.

[8] Curschmann, H.: München. med. Wchnschr. **68**: 745, 1921.

[9] Bordoni, L.: Rif. Med. **14**: 100, 1898.

[10] Liveing, Robert: Migraine: Sick Headache and Some Allied Disorders, London, 1873.

[11] Flatau, E., in Lewandowsky's Handbuch der Neurologie, Berlin, Julius Springer, 1914.

[12] Buchanan, J. A.: J. Nerv. & Ment. Dis. **54**: 406 (Nov.) 1921.

[13] McVicar, C. S.: J. Iowa M. Soc. **14**: 244 (June) 1924.

Case 6.—A man, aged 39, whose mother and one brother had attacks of severe migraine, complained of attacks of very painful bilateral frontal headache with scotomas and some nausea, but no vomiting. The attacks began at the age of 16, and when the patient was 22, the headaches became less severe, but marked abdominal pain with nausea and vomiting now occurred during attacks. Although no headache has been present in the last three years, the attacks of abdominal pain and nausea have not been amenable to any form of treatment.

Case 7.—A woman, aged 43, whose father, brother and sister had attacks of migraine, at the age of 16 began to have attacks of typical hemicrania with nausea, vomiting and generalized abdominal pain, especially if the attack occurred just before menstruation. When the patient was 32, the abdominal symptoms became very much worse, while the headaches were less severe, and when she was 36, the hemicrania disappeared entirely, while the abdominal symptoms became aggravated. Nothing abnormal was found on repeated examination of the patient. The attacks occurred about every two months, and when the patient was 38, the headaches began to recur, while the abdominal pain became better. When the patient reached the age of 40, both the headache and abdominal pain became less severe and she has been free from symptoms for the last eighteen months.

Case 8.—A man, aged 32, whose mother had migraine together with marked abdominal symptoms and whose sister suffered from hemicrania, at the age of 16, without previously showing any evidence of migraine, began to have attacks of severe abdominal pain with retching, eructations and vomiting. These increased in severity so that a diagnosis of gallstones and ulcer was made. At the age of 28, he was placed on a rigid ulcer regimen, although gastro-intestinal examination was negative. No improvement followed. When he was 30, laparotomy was performed but nothing abnormal was found. A diagnosis of gastric neurosis was then made. The patient was placed on antimigrainous treatment, with the result that he had only two attacks during the past year.

Case 9.—A woman, aged 34, who complained of periodic attacks of very severe pain in the abdomen which were uninfluenced by food, alkalis or vomiting, felt in particularly good health just before an attack and had no symptoms in the interval between attacks. Vomiting of bile and mucus occurred several hours after the abdominal pain, and the entire attack lasted two or three days. The patient had been suffering from this trouble for almost ten years. The attacks occurred two or three times a month and were ushered in by a feeling of burning and tingling in both legs several hours before the headache began. The abdominal pain began about an hour after the headache occurred, and nothing relieved it. Nothing abnormal was found on examination of the patient except slight surging in the duodenum, revealed by the roentgen ray. The Wassermann reaction was negative, and the fundi were normal. Determination of the nonprotein nitrogen, urea, creatinine and calcium content of the blood before, during and after an attack revealed nothing abnormal. The patient stated that her mother suffered from migraine but that no other member of her family showed evidences of this condition. There was no history of epilepsy or insanity in the family. The patient was put on various forms of treatment, including cannabis, but obtained no marked relief.

Case 10.—A woman, aged 27, whose father and paternal grandmother had typical attacks of migraine, the latter with severe abdominal symptoms, began to have attacks of painful bilateral frontal headaches, with blurring of vision and severe nausea, but with no vomiting, at the age of 8. Until she was 13, the attacks would occur once in from four to six weeks with more or less regularity. With the onset of the menses at the age of 14, the attacks became more frequent and when the patient was 18, the attacks occurred almost every two weeks. The headaches at this time were less severe but were accompanied by marked abdominal pain and tenderness, and vomiting lasting nearly three days. The severity of the head pain was diminished after sleep, but the other symptoms persisted until the attack was over. Physical examination revealed nothing abnormal, and the patient was placed on treatment with cannabis, as previously outlined.

COMMENT

A study of the foregoing cases as well as of the series previously reported brings several interesting features to our attention. There was a family history of migraine in nearly every patient, and several of the patients themselves suffered from hemicrania either before or at the time the abdominal pain occurred. The attacks usually began abruptly, lasted from one to four days, and ended as abruptly as they began. The intervals between attacks were remarkable in that there was a complete absence of all symptoms. The typical attack consisted of a severe, boring or cutting epigastralgia, without relation to food and without relief by alkalis, food or vomiting. Physical examination during an attack showed nothing abnormal except slight epigastric tenderness in a few cases. An important negative sign was the absence of fever during an attack. A remarkable feature in the first eight cases reported in our later series and in some of the previous cases was the disappearance of the hemicrania and the substitution of the epigastralgia for this symptom during an attack of migraine.

In considering the diagnosis of an abdominal crisis in migraine, great care must be used to exclude organic disease of a different nature, especially the abdominal crises of tabes and exophthalmic goiter. Reflex pain from disease of various organs must also be considered. The condition described by Grasset,[14] and named by him nervopathie psychosplanchnique, in which visceral nervous symptoms occur with psychic manifestations, must be kept in mind. Vorkastner[15] described a condition in which psychic disturbance or mental excitement was associated with abdominal pain, but this condition should be recognized with ease.

In the pathogenesis of migraine we must consider a constitutional and usually an inherited diathesis independent of any apparent abnormality in the structure of the brain. The abnormality is functional. The nature of this constitutional element has never been satisfactorily explained by any theory. It would seem that under certain conditions certain parts of the brain have an inherent tendency to become a storm center, as in epilepsy when the cortex or bulb is involved. In migraine it is difficult to define an exact cerebral localization, since the symptoms are referable to many parts of the body, as described by Hurst[16] and Liveing.[10] It is possible, however, that the abdominal pain and other symptoms mentioned in our series of cases may be due to the occurrence of a storm center involving the region of the nuclei of the vagi, with transmission of the impulse to the sympathetic system.

SUMMARY

1. In a series of thirty-two cases of migraine, abdominal pain was the outstanding symptom in the clinical picture.

2. The abdominal pain occurred in periodic attacks similar to the attacks of hemicrania in the ordinary form of migraine.

3. The occurrence of the periodic attacks of abdominal pain, after the paroxysms of hemicrania were greatly diminished or disappeared completely, leads us

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[14] Grasset: L'encéphale 4: 194, 1909.

[15] Vorkastner, W., in Lewandowsky's Handbuch der Neurologie, Berlin, Julius Springer, 1914, p. 75.

[16] Hurst, A. F.: Lancet 2: 1 (July 5) 1924.

to conclude that the abdominal pain may be regarded as a substitute for the attacks of headache which were previously present in these cases. This supposition is strengthened by the fact that the abdominal pain again disappeared in several cases when the hemicrania recurred.

4. Great care must be taken not to confuse organic disease of the nervous system or reflex pain with the condition described.

5. The outstanding features of the condition described are *periodic attacks of severe abdominal pain, with normal intervals,* in a person who has a personal or family history of typical migraine. The attacks resemble very closely the ordinary attacks of migrainous hemicrania, except that abdominal pain occurs instead of headache. Practically all associated symptoms of migraine occurred with the abdominal pain in our series. The fact that four of the ten patients reported in our series were operated on and nothing was found to explain the attacks strengthens our belief that these were cases of atypical migraine.

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THE RÔLE OF DENTITION IN THE DIAGNOSIS OF RICKETS *

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This investigation is concerned with the relationship of dentition to the mild type of rickets and is based on data that have served for studies on rickets by Hess and his co-workers during the last few years. This form of the disorder usually passes unrecognized and is prevalent among infants both of the well-to-do and of the poor, in contradistinction to the marked type, which is almost limited to the poor. Fully 75 per cent of all artificially fed and perhaps 50 per cent of all breast fed infants manifest evidences of mild rickets some time during the first two years of life. It is a problem, therefore, which should interest the general practitioner.

A review of the literature of the rôle of dentition in rickets reveals surprisingly few clinical investigations and a striking paucity of data on which to base an opinion concerning this interesting aspect of a common nutritional disorder. The statements in this regard are many and have been reiterated ever since the conception of delayed dentition was first associated with rickets by Glisson in the seventeenth century. An idea of the status of the question may be gleaned from the following excerpts selected from standard textbooks of pediatrics of various countries: In considering dentition in rickets, Kassowitz[1] of Vienna says: "Generally as the result of the early beginning of rickets, the first teeth appear late: *instead of at the middle of the first year,* they appear toward the end or even later. Sometimes the first teeth appear on time or only slightly delayed; *then comes a long pause* which is concomitant with an increase in the degree of rickets." Heubner,[2] who always gave great attention to rickets, refers to "a delayed appearance of the deciduous teeth or of an interval of months in the appearance of different pairs of teeth." Turning to a French authority on this subject, we find that Marfan[3] writes: "Rickets frequently retards the eruption of the teeth: instead of appearing at seven, the first incisors do not erupt before about ten, twelve, or even fifteen months and even beyond that period." Still[4] sums up the question in these words: "The delay of dentition is a very frequent symptom and one of considerable value in diagnosis: it was noted in 76 per cent of my cases. The first tooth may not make its appearance until eighteen months, but it is exceptional to be as late as this." Holt and Howland[5] state that, "as a rule, dentition is late and apt to be difficult. A study of the progress of dentition in 150 rachitic children gave the following results: in 50 per cent, the first teeth were cut on or before the eighth month; 20 per cent of the patients had no teeth at twelve months, and in 8 per cent none had appeared at fifteen months. Even though the first teeth came at the usual time, the progress of dentition is usually retarded by the development of rickets." In his recent monograph on rickets, Hess[6] writes: "No doubt rachitic infants in general teethe later and more irregularly than the nonrachitic, a phenomenon which is especially marked in severe cases. In the mild cases, however, which constitute those commonly met with, this sign is fallacious. Family idiosyncrasy, mental backwardness and other causes will lead to delayed dentition quite in the absence of rickets."

An excellent opportunity has been afforded us in this institution to study the time of eruption of the first tooth as well as the progress of dentition during the development of rickets. This study includes a large number of infants with various grades of rickets, beginning several years ago in 1920, when cod liver oil was not used as a therapeutic agent, and extending to the present time, when it is prescribed in a routine way. Orange juice was given at all times, so that the possibility of scurvy as a factor in delayed dentition can be absolutely excluded. These children have been examined regularly at monthly intervals, and data of the clinical signs of rickets, roentgenograms of the epiphyses, and inorganic phosphorus determinations of the blood have been recorded. Although several hundred infants have been studied in this manner, only those which had no teeth at the time of the first examination have been included in this survey.

The time of eruption of the first tooth was observed in sixty-eight infants who had no rickets and in eighty-seven infants who had rickets of various degrees. The diagnosis was substantiated by beading of the ribs, bowing of the legs, enlargement of the epiphyses, typical roentgenologic changes, and the diminished inorganic phosphorus in the blood. As far as we are aware, there has been no similar study controlled in these various ways, which have enabled us not only to be certain in regard to the diagnosis of the various cases, but to include in the survey the important group of mild rickets which otherwise would have been open to question.

In contradistinction to the experience of others, as expressed in the textbooks on pediatrics, *only slightly* more than 10 per cent of the normal babies had a tooth at the age of 6 months. The first tooth in the group of infants with rickets did not appear until the seventh month, and even then was noted in only about 1 per cent. Thirty-five, or about one half, of the normal group had a first tooth during the period from the sixth to the ninth month, whereas twenty-three, or about one fourth, of the rachitic infants had a first tooth during this period. Forty-two infants having rickets, comprising about one-half the total number, gave no evidence of teething before the age of from 9 to 12 months. At the end of the first year of life, all but one of the normal babies had a tooth; whereas only sixty-five, or about 75 per cent, of the rachitic babies had a tooth. Teething was delayed until the twelfth to the fifteenth month in eighteen of the infants having rickets; until the fifteenth to the twenty-first month in four others. The data are portrayed in tables 1 and 2 and chart 1.

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* From the Home for Hebrew Infants.

[1] Kassowitz, M.: Praktische Kinderheilkunde, Berlin, Julius Springer, 1910.

[2] Huebner, O.: Lehrbuch der Kinderheilkunde, Leipzig, Johann Barth, 1903.

[3] Marfan, P.: Maladies des os, Paris, J. B. Bailliere, 1912.

[4] Still, G. F.: Common Disorders and Diseases of Childhood, London, Henry Froude, 1909.

[5] Holt, L. E., and Howland, J.: The Diseases of Infancy and Childhood, New York, D. Appleton & Co., 1918.

[6] Hess, A. F., in Abt's Pediatrics 2, Philadelphia, W. B. Saunders Company, 192

Table 1.—*Time of Appearance of First Tooth in Infants With and Without Rickets*

	Number of Cases	
Age in Months	Without Rickets	With Rickets
3	0	0
4	0	0
5	0	0
6	7	0
7	9	4
8	11	8
9	15	11
10	12	16
11	8	15
12	5	11
13	1	4
14	..	11
15	..	3
16	..	1
17	..	1
18	..	..
19	..	..
20	..	1
21	..	1
Total	68	87

Table 2.—*Time of Appearance of First Tooth (Quarterly Periods) in Infants With and Without Rickets*

	Number of Cases	
Age in Months	Without Rickets	With Rickets
0 to 6	7	0
6 to 9	35	23
9 to 12	25	42
12 to 15	1	18
15 to 21	0	4
Total	68	87

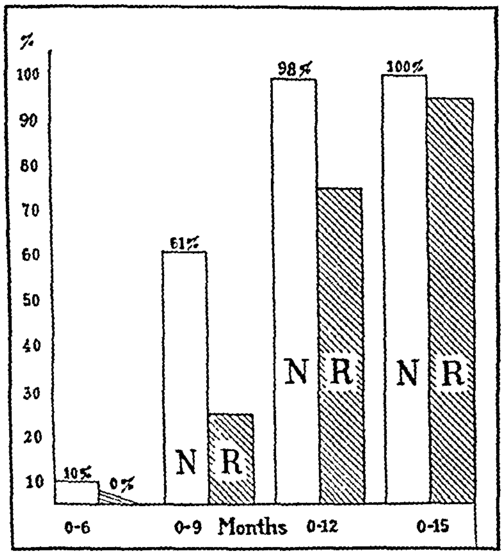

Chart 1.—Comparison of time of eruption of first tooth in series of rachitic and nonrachitic infants (percentages); *N*, normal infants; *R*, rachitic infants.

Table 3.—*Rachitic Cases*

Case	Date of Observation	Age, Months	Number of Teeth	Rosary	Phosphorus Inorganic, Mg. %	Roentgenographic Findings
8	2/27/22	7	0	Plus	3.83	Rickets ?
	3/28/22	8	2	Plus	3.50	Healing
	5/10/22	10	2	Plus	3.33	Moderate
	6/14/22	11	2	Plus	3.33	Marked
	7/16/22	12	2	Plus	....	Marked (healing)
	8/25/22	13½	7	Negative	....	Healed
12	3/24/22	10	0	Plus	3.03	Slight
	4/ 5/22	10½	1	Plus	3.03	Slight
	5/12/22	12	1	Plus	4.24	Healing
	6/13/22	13	2	Plus	4.24	Healing
13*	1/30/20	3½	0	Plus	....	Slight
	3/ 5/20	5	0	Plus	....	Slight
	4/ 4/20	6	0	Plus	....	Slight
	5/ 7/20	7	0	Plus	....	Slight
	6/ 8/20	8	0	Plus	....	Slight
	7/11/20	9	0	Plus	....	Slight
	7/27/20	9½	0	Plus	....	Slight
	9/ 2/20	11	0	Plus	....	Slight
	10/ 3/20	12	0	Negative	....	Slight
	11/ 5/20	13	0	Negative	....	Slight
	12/ 3/20	14	0	Negaitve	....	Slight
	1/ 9/21	15	0	Negative	....	Slight
	2/15/21	16	0	Negative	....	Slight
	3/18/21	17	0	Negative	....	Healing
	4/18/21	18	0	Negative	....	Healing
	5/27/21	19	1	Negative	....	Healing
	7/ 5/21	20½	3	Negative	....	Healing
14	11/18/21	8	0	Plus	....	Negative
	12/20/21	9	0	Plus	3.45	Negative
	1/18/22	10	0	Plus	3.31	Slight
	2/21/22	11	0	Plus	....	Slight
	3/24/22	12	0	Plus	3.23	Slight
	4/26/22	13	1	Plus	3.17	Slight
	5/ 3/22	13½	..	Plus	3.12	Mild
	8/24/22	17	4	Negative	4.13	Healing
15	8/16/21	9	0	Negative	....	Healing
	9/23/21	10	2	Negative	....	Mild
	10/28/21	11	2	Negative	....	Slight
	12/ 4/21	12½	4	Plus	3.33	Slight
	1/15/22	14	5	Plus	....	Slight
	2/28/22	15	7	Plus	3.22	Moderate
	3/20/22	16	8	Plus	2.77	Healing
	4/28/22	17	10	Plus	4.46	Almost healed
	5/30/22	18	12	Negative	4.42	Healed
16	10/ 6/20	9½	0	Plus	....	Negative
	11/ 2/20	10½	0	Plus	....	Slight
	11/30/20	11	2	Plus	....	Slight
	12/28/20	12	2	Plus	....	Moderate
	1/30/21	13	2	Plus	....	Moderate
	3/ 6/21	14½	2	Plus	....	Calcification
	4/12/21	15½	4	Plus	....	Healed
	5/13/21	16½	6	Negative	....	Healed
	6/19/21	18	7	Negative	....	Healed
	8/ 5/21	20	12	Negative	....	Negative
	9/ 6/21	21	12	Negative	....	Negative
19*	10/ 1/20	4	0	Plus	....	Slight
	10/31/20	5	0	Plus	....	Slight
	12/ 3/20	7	0	Plus	....	Slight
	1/ 9/21	8	0	Plus	....	Moderate
	2/ 4/21	9	0	Plus	....	Moderate
	3/ 6/21	10	0	Plus	....	Moderate
	4/10/21	11	0	Plus	....	Moderate
	5/11/21	12	0	Plus	....	Healing
	6/10/21	13	0	Plus	....	Healed
	7/ 8/21	14	0	Negative	....	Healed
	8/16/21	15	0	Negative	....	Healed
	9/16/21	16	0	Negative	....	Healed
	10/14/21	17	2	Negative	....	Healed
81	10/28/21	10	0	Negative	....	Negative
	12/ 4/21	11	2	Plus	3.95	Negative
	1/ 7/22	12	3	Plus	....	Negative
	2/21/22	13½	4	Plus	....	Negative
	3/24/22	14½	4	Plus	3.12	Mild
	4/26/22	15½	4	Plus	2.85	Mild
	5/ 3/22	16	5	Plus	2.85	Mild
86	10/28/21	4	0	Plus	....	Negative
	12/ 4/21	5	0	Plus	3.84	Negative
	1/ 8/22	6	0	Plus	3.80	Negative
	3/24/22	8½	0	Plus	3.03	Slight
	4/25/22	9½	1	Plus	3.22	Slight
	5/31/22	11	3	Plus	3.33	Moderate
	8/24/22	14	5	Negative	4.46	Healed

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* In case 19, cod liver oil, one teaspoonful three times a day, was given continuously after February, 1921. In case 13 the same amount was given after May, 1920.

In order to give an adequate conception of the method by which this study was carried out, and the form in which the data were recorded, we are presenting two tables—one, reproducing data in connection with the normal cases and the other giving similar data in relation to the rachitic cases. It will be noted how, month by month, the eruption of the teeth was *recorded together with the presence or absence of signs* of early rickets. Cases showing delayed dentition in rickets may be found in table 3. Cases 19 and 13 of this series are excellent examples of delayed dentition, only two and three teeth, respectively, having erupted in the course of seventeen and twenty and one-half months. Cases 8 and 15 of this group illustrate the increase in the number of teeth after a period of delayed dentition coincident with the beginning of healing of the epiphyses and an increase in the inorganic phosphorus of the blood. In table 4 may be found representative data of normal babies; it may be observed that the eruption of the first tooth may be delayed until 9½ months, in spite of the absence of all signs of rickets.

Table 4.—*Normal Cases*

Case	Date of Observation	Age, Months	Number of Teeth	Rosary	Phosphorus Inorganic, Mg. %	Roentgenographic Findings
1	4/19/21	6	0	Negative	....	Negative
	5/27/21	7	1	Negative	....	Negative
	8/ 5/21	9	3	Negative	....	Negative
	9/ 6/21	10	4	Negative	....	Negative
	10/14/21	11	7	Negative	....	Negative
	11/20/21	12	8	Negative	4.21	Negative
	12/27/21	13	8	Negative	....	Negative
	2/21/22	15	13	Negative	....	Negative
	3/24/22	16	15	Negative	3.89	Negative
	4/25/22	17	16	Negative	4.00	Negative
	5/31/22	18	16	Negative	4.54	Negative
5	11/20/21	6½	0	Negative	....	Negative
	12/23/21	7½	1	Negative	4.34	Negative
	2/ 8/22	9	6	Negative	4.54	Negative
	3/14/22	10	6	Negative	3.70	Negative
	4/23/22	11	7	Negative	3.57	Negative
	5/20/22	12	10	Negative	4.13	Negative
	6/25/22	13	12	Negative	4.00	Negative
20	7/20/20	6	0	Negative	....	Negative
	9/ 2/20	7½	2	Negative	....	Negative
	10/ 8/20	8½	2	Negative	....	Negative
	11/ 5/20	9½	4	Negative	....	Negative
	12/ 3/20	10½	5	Negative	....	Negative
	1/ 9/21	11½	8	Negative	....	Negative
	2/17/21	13	8	Negative	....	Negative
	3/18/21	14	8	Negative	....	Negative
	4/24/21	15	8	Negative	....	Negative
	5/27/21	16	8	Negative	....	Negative
	7/27/21	18	14	Negative	....	Negative
	8/31/21	19	16	Negative	....	Negative
21	10/ 8/20	8½	0	Negative	....	Negative
	11/ 2/20	9½	1	Negative	....	Negative
	12/ 3/20	10½	2	Negative	....	Negative
	1/ 5/21	11½	4	Negative	....	Negative
	2/15/21	13	5	Negative	....	Negative
	3/20/21	14	7	Negative	....	Negative
	4/22/21	15	7	Negative	....	Negative
	5/24/21	16	9	Negative	....	Negative
	7/ 5/21	17½	12	Negative	....	Negative
	8/16/21	18½	13	Negative	....	Negative
46	10/21/21	7	0	Negative	....	Negative
	11/23/21	8	1	Negative	....	Negative
	12/23/21	9	2	Negative	4.36	Negative
	1/27/22	10	2	Negative	....	Negative
	3/ 3/22	11½	3	Negative	3.86	Negative
	4/ 2/22	12½	4	Negative	....	Negative
	5/ 9/22	13½	4	Negative	3.84	Negative

The progress of dentition was followed in both the normal and the rachitic groups from the time of the appearance of the first *tooth to the age of 18 months.* Chart 2 shows the number of teeth, month by month, in the sixty-eight normal and the eighty-seven rachitic infants. The curve representing *the nonrachitic group* may be regarded as normal and shows that, at every period throughout an entire year, these infants had a larger number of teeth *than the corresponding* rachitic group.[7]

The deduction seems to be warranted that not only the first tooth but also the eruption of subsequent teeth is delayed in infants with rickets. Even in the mildest form of rickets that is at present recognizable, there is a definite delay of dentition in rachitic as compared with normal infants. This comparative retardation in dentition is true not only for the first tooth but also for all the deciduous teeth. This is interesting in showing the systemic nature of the metabolic disturbance of rickets as well as the close relation of teething to the development and ossification of the long bones.

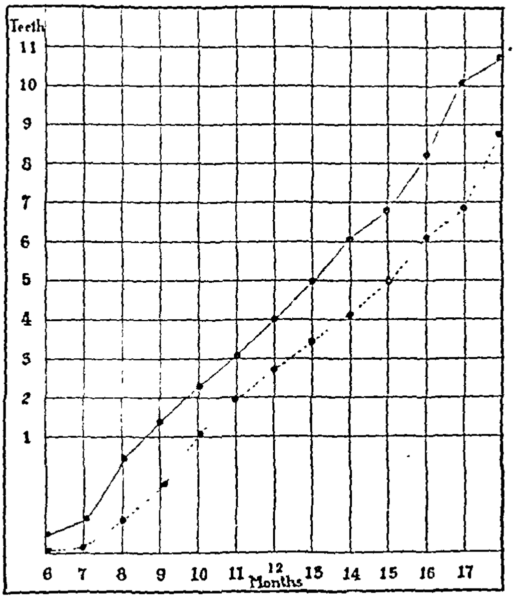

Chart 2.—Comparative progress of dentition in normal and rachitic infants from 6 to 18 months of age: solid line, normal infants; broken line, rachitic infants.

But in spite of this definite difference between normal and rachitic infants, delayed dentition possesses little diagnostic value, for there are other factors—hereditary as well as postnatal—which influence the evolution of *the teeth and detract from its importance.* Tardy dentition must be classed with such indeterminate signs as delayed closure of the fontanel, and delay in sitting or in walking, and is not to be considered in the same *light as beading of the ribs, enlargement of the* epiphyses, bowing of the legs, or even bossing of the cranial tuberosities.

CONCLUSIONS

1. A review of the literature as to the rôle of dentition in the diagnosis of rickets reveals merely general statements and a striking paucity of data.

2. A study of mild rickets by means of clinical, *roentgenologic and chemical methods showed that* dentition is delayed even in this group of cases.

3. As a diagnostic sign of rickets, delayed dentition possesses little significance, however, owing to the variability *in the time of eruption of the deciduous* teeth.

47 Fort Washington Avenue—703 Howard Avenue.

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[7] Almost all the infants included in the group as "normal" or "nonrachitic" had received prophylactic doses of cod liver oil.

FRACTURES ABOUT THE ELBOW JOINT

REVIEW OF ONE HUNDRED AND FIFTY CASES; END-RESULTS IN FIFTY-TWO CASES *

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A large proportion of the injuries involving the upper extremities are fractures in and about the elbow joint. The results obtained in the treatment of these injuries have often been most unsatisfactory from the standpoints of both function and deformity, although in our experience the fragments have never failed to unite. For this reason a study has been undertaken of 150 unselected consecutive cases treated from 1920 to 1925, to determine the results of a treatment instituted at the New York Post-Graduate Hospital, which will be described later, and to compare our end-results with those of other clinics. An attempt was made to follow up all cases after more than a year from the time of discharge, but only fifty-two patients responded to a request for their return.

Table 1.—*Time After Injury That Patients Came for Treatment*

	Per Cent
First day	21
Within one week	35
Within two weeks	13
Within three weeks	4
Within one month	7
More than one month	16
More than one year	4

Table 2.—*Frequency of Sites Involved*

	Stimson, 1904 97 Cases		Ashhurst, 1910 56 Cases		Neuhof and Wolfe, 1914 100 Cases		Cutler and Cave, 1924 64 Cases		Siris, 1925 161 Cases*		Post-Graduate Hospital, 1925 150 Cases	
	No	%	No.	%	No	%	No.	%	No	%	No.	%
[illegible]	26	26 8	29	51 78	49	49	32	50	109	61	62†	41.33
[illegible]	15	15 58	4	7 14	21	21	4	6 25	20	11	40	26 66
[illegible]	45	46 39	12	21 64	14	14	7	10 9	21	11.6	19	12 66
[illegible]	9	9 28	1	1 78	..	..	2	3.12	..	.....	2	1 33
[illegible]	..	.....	..	.....	..	..	4	6.25	..	.....	2	1.33
[illegible]	..	.....	..	.....	.	..	..	.....	..	.....	1	0 66
Upper radius	..	.....	..	.....	6	6	..	.....	5	2 7	17	11.33
Olecranon	..	.....	..	.....	..	..	..	.....	8	1 6	7	4 66
Epiphyseal separation of humerus	1	1 03	7	12 46	..	..	7	10 9	..	.....	..	.....
[illegible]	1	1 03	..	..	..	..	..	.....	..	.....	..	.....
[illegible]	..	.....	8	6 34	..	..	7	10 9	..	.....	..	.....
[illegible]	..	.....	..	.....	..	..	1	1.56	..	.....	..	.....
[illegible]	..	.....	..	.....	11	11	..	.....	..	.....	..	.....

* Includes dislocations.
† Includes epiphyseal separation.

ANATOMY

The elbow joint is the most highly specialized joint in the body. "The combination of the movements of flexion and extension of the forearm, with those of pronation and supination of the hand, which is insured by the two being performed at the same time, is essential to the accuracy of the various minute movements of the hand. Owing to the obliquity of the trochlear surface of the humerus, the movements of flexion and extension do not take place in a straight line. When the forearm is extended and supinated the axis of the arm is not in the same line as the axis of the forearm, but the axis of the arm forms an angle with the axis of the forearm, and the hand with the forearm is directed outward. During flexion, on the other hand, the forearm and the hand tend to approach the middle line of the body." The shape of the articular surface of the humerus, with its prominences and depressions accurately adapted to the opposing surface of the olecranon, prevents any lateral movement.

CAUSES

The causative agent in all our cases was violence; that is, there were no cases of spontaneous or pathologic fracture. Indirect violence was the cause in 66⅔ per cent, direct in 32 per cent, and muscular in 1⅓ per cent.

INCIDENCE

Eighty-two per cent of the cases occurred in children under 15 years of age; 79 per cent occurred in males. The right elbow was involved in 53 per cent, which is not quite as high as might be expected.

DURATION

From table 1 it will be noted that the majority of patients came to us within the first week, yet a large number came for treatment after more than two weeks from the date of injury.

PATHOLOGY

Types.—We have followed Moorhead's[1] classification of fractures under two types. In type 1, the fragment or fragments are displaced at least a distance equal to their own diameter; type 2 includes those not in the first group, the nondisplaced. In this series we have 76 per cent of the type 1 variety.

Sites.—There is a great variance between our findings and those of other authors regarding the frequency of the sites involved, especially the large percentage of internal condyle fractures in our series (table 2).

Associated Lesions.—In all fractures about the elbow joint, as in fractures at other joints, in addition to the bony involvements there is always associated injury to the soft structures—vascular, synovial, muscular and sometimes neural, such as musculospiral or ulnar involvement. In our series of cases, the musculospiral nerve was injured three times and the ulnar eleven.

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* Read before the Section on Surgery, New York Academy of Medicine, Dec. 4, 1925.

* From the Department of Traumatic Surgery, New York Post-Graduate Medical School and Hospital, Dr. John J. Moorhead, director.

[1] Moorhead, J. J.: Measuring End Results After Injury, J. A. M. A. 79: 824 (Sept. 2) 1922.

Because of the discrepancy between the anteroposterior and the lateral diameters of the humerus, there is a great tendency to comminution, and comminution increases the likelihood of soft structure damage.

TREATMENT

In our routine we have adopted what Sir Robert Jones[2] calls "the golden rule of treatment." He says: "They should all be treated with the elbow fully flexed and the forearm supinated, with the single exception of fracture of the olecranon, which requires full extension . . . The best means of reduction, I would almost venture to say the only means of complete reduction, is a combination of complete flexion of the elbow with downward traction of the forearm. If the limb is then bandaged in complete flexion with the forearm *supinated, that is, with the palm* toward the shoulder, a good result in every case of simple, uncomplicated fracture is practically assured." We believe, with Jones, that any case not lending itself to this method of reduction requires open operation; in our series, 8 per cent of the cases required open correction. This operation was resorted to only after two attempts at closed reduction were unsuccessful.

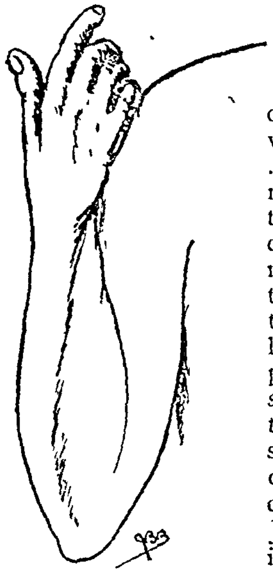

Fig 1.—Elbow in acute flexion, after reduction of fracture about the elbow joint; ulnar side of the *small finger on a plane* with the tuberosity of the humerus; palm facing shoulder. The normal carrying angle will be maintained by this position

The closed method of reduction can usually be carried our without anesthesia in cases seen very early. In our experience, after a few hours have elapsed, an anesthetic is usually indicated. The anesthetic of choice for older children is gas, and for younger ones, ether. Our method has been to flex the elbow to such a degree that the radial pulse is obliterated, and then slowly extend the forearm until the pulse becomes perceptible, and keep the elbow flexed to that point. At the same time it is necessary, in order that the normal carrying angle be preserved, that the ulnar side of the small finger be on a plane with the outer side of the greater tuberosity of the humerus, as shown in figure 1. In cases of overriding (type 1), in addition to the manipulation described, traction on the lower fragment must be made before flexion of the elbow is carried out. The traction must be slow, steady and sustained. The length of traction is dependent on (*a*) duration of fracture; (*b*) extent of overriding, and (*c*) musculature of the patient. The purpose of traction is to "set" the muscles and allow *the fragments* to aline. The rationale of this treatment has been fully explained and it is unnecessary to go into further detail. The flexion position is maintained by a figure of eight bandage placed about the forearm and arm in such a way as not to encircle the limb (fig. 2). A pad of gauze is placed in the crease of the elbow, which has been previously powdered, the purpose of which is to keep the apposed skin surfaces apart and thus prevent an intertrigo. (This is a modified Ashhurst dressing.) The application of the dressing may be greatly facilitated by having the patient grasp the fingers of the injured member and bring the forearm of the uninjured side back of the head. This will maintain the elbow in acute flexion and the dressing can be readily applied. It is admitted that this immobilization is not absolutely rigid, but the degree of motion allowed is negligible so far as the practical end-result is concerned.

After reduction it is essential that the patient be kept under close observation for at least two hours, because of the possibility of increased swelling following manipulation, which may cause arterial obstruction. Thereafter the patient should be instructed to keep the fingers moving and to watch them for cyanosis and for contracture. On the following day the dressing and limb should be inspected. At the end of two days the dressing is removed, and massage and guarded passive motion are instituted. By guarded motion we mean extension of the forearm to an angle of 90 degrees and flexion to an acute angle while the fracture site is firmly held. Then the dressing is reapplied with the elbow joint acutely flexed. This treatment is continued on alternate days, with the forearm gradually lowered, i. e., the angle of flexion made less acute, until on or about the tenth day the dressings are entirely discarded and the forearm is carried in a sling. (This treatment applies alike to adults and to children.) From this point the patient is made to move the elbow twice from a right angle to an acute angle, several times daily, by active motion of the forearm. At the same time, massage is given, preferably each day, for a fortnight, and three times weekly thereafter until the elbow can be fully flexed and extended. Obese persons, especially women, do not lend themselves readily to this form of treatment and usually require immobilization of the elbow in flexion at a right angle. Eisendrath[3] states that "the standard method of treatment for the majority of fractures of the lower end of the humerus still remains immobilization of the elbow in flexion at a right angle." We believe that this treatment applies only to the obese.

Fractures of the head of the radius require operation only when the fragments are so displaced as to act *as foreign bodies* and interfere with the function of the joint.

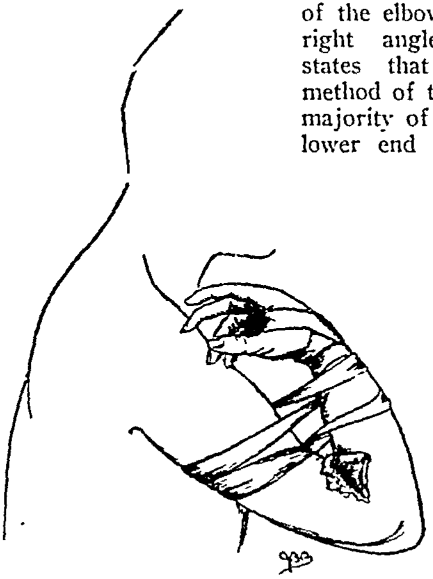

Fig 2.—Figure of eight bandage, placed about arm and forearm to maintain acute flexion position, pad of gauze in bend of elbow.

One should give more attention to the flexion of the elbow than to extension. Complete flexion is essential, while extension is more apt to return by the force of gravity, and can be augmented by the carrying of heavy objects. Physiotherapy and use of the elbow should be discontinued when signs of inflammation are manifested; the elbow should then be kept at rest and a wet dressing applied until the inflammatory reaction has disappeared. The time given to physiotherapy will depend on (1) the type of fracture, (2) the amount of periarticular damage, (3) the amount of intra-articular damage and (4) the type of the treatment. The average time given to treatment was forty-seven days.

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[2] Jones, Robert: Injuries to Joints, 1918, p. 87.

[3] Eisendrath, D. N., in Keen's Surgery 4: 179, 1919.

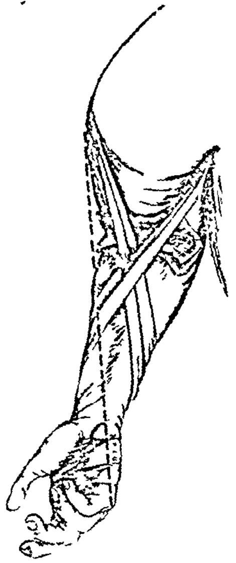
Fig. 3.—Figure of eight placed about the arm and forearm so as not to encircle either part

END-RESULTS

In determining end-results of fractures, it has been the custom to rate them on the functional result alone, no attention being given to the appearance of the limb or to the type or amount of callus.

Ashhurst[4] implies by a perfect result one in which the full range of normal motion and the normal carrying angle are present. In a study of forty-seven cases, he reports the results in 81 per cent to be perfect, 8 per cent with limited motion, 9 per cent with varus, and in 2 per cent with valgus deformities.

Cutler and Cave,[5] in a study of sixty-four cases, report an average functional end-result in 89 per cent.

Neuhof and Wolfe,[6] in a study of 100 cases, found perfect result in 53 per cent and imperfect results in 47 per cent, the imperfect results occurring largely in those patients who appeared for treatment more than a month after the injury.

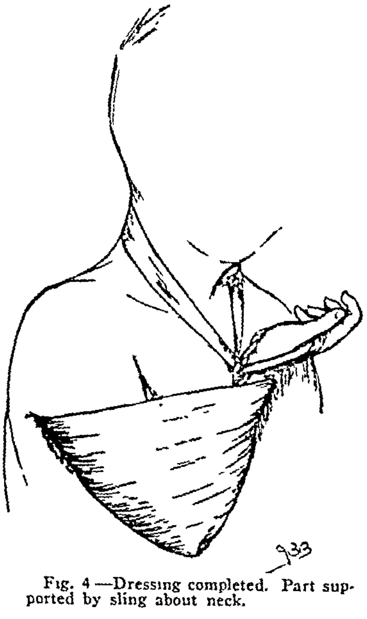
Fig. 4.—Dressing completed. Part supported by sling about neck.

Siris[7] had in ninety-two cases of supracondylar fracture of the humerus twenty-six excellent functional end-results; in twenty internal condyle fractures, sixteen with good functional results, and in twenty external condyle fractures, fifteen good results.

König,[8] in a study of roentgenograms made three years after injury, found that in children even marked deformities disappear, apparently by absorption.

In calculating our end-results we have followed a method of rating in terms of function, union and contour, as described by Moorhead. On a basis of 100 per cent for a perfect result, he allows 60 per cent for function, 20 per cent for contour and 20 per cent for union. A study of fifty-two cases, made after more than two years had elapsed since the date of the injury, gave the rating of 51 per cent for function, 18.7 per cent for union, and 16.7 per cent for contour, a total average end-result of 86.4 per cent restoration.

Some of the deductions were for ischemic paralysis presumed to be due to pressure from plaster casts, which existed in two patients, both of whom came to us after the ischemia was manifest. Other deductions were made for reasons previously stated (seen by us late, etc.).

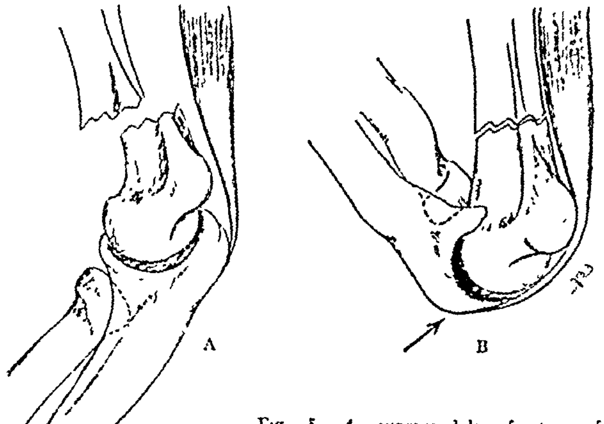

Fig. 5.—*A*, supracondylar fracture of humerus; *B*, fracture reduced: Triceps tendon acting as a posterior splint; lower fragment steadied by the radius and ulna, fitting accurately into their relative depressions in the lower end of the humerus.

In our cases we had twelve perfect results, eighteen presenting an exaggeration of the normal carrying angle, four with loss of the carrying angle, two with complete loss of function, and sixteen with perceptible thickening about the joint but no functional limitations.

REASONS FOR POOR RESULTS

It might be well to consider at this point the reasons why poor results are obtained in fractures about this region. They are: 1. Filling up of the coronoid and the radial depressions on the anterior surface of the humerus with callus or organized deposits. 2. Interposition of bone between the radius or ulna and the humerus. Attached to the condyles are the flexor and extensor muscles of the forearm and hand, which in their action pull forward and downward the respective condyles when fractured, and thus interpose these fragments. 3. Failure properly to maintain the normal carrying angle of the elbow joint, which is about 165 degrees. 4. Myositis ossificans, either as a result of treatment, such as too vigorous passive motion and massage, or as a result of the original trauma causing marked swelling and a consequent interference with the circulation, manifests itself by a massive bony deposit on the anterior surface of the elbow. This deposit acts as a definite and permanent bony block.

CONCLUSIONS

From the end-results obtained we believe that:

1. Early motion and massage are conducive to early functional restoration.

2. The farther away from the joint the fracture exists, the less likelihood there is of ankylosis; the closer to the joint, the greater the tendency to excessive callus.

3. Obese patients are not easily amenable to this form of treatment.

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[4] Ashhurst, A. P. C.: Fractures About the Elbow, 1910.

[5] Cutler, C. W., Jr., and Cave, H. W.: Fractures of the Elbow, Surg., Gynec. & Obst. 38:653 (May) 1924.

[6] Neuhof and Wolfe: Fractures of the Elbow, Surg., Gynec. & Obst., March, 1915.

[7] Siris, I. E.: Elbow Fractures and Dislocations, Surg., Gynec. & Obst. 40:665 (May) 1925.

[8] König: Arch. f. klin Chir. 85:187.

4. Displaced fractures of the head of the radius require open correction when the fragment interferes with joint function; i. e., acts as a foreign body in the joint.

5. Nonunion at the elbow does not occur except in avulsion fractures.

6. Certain cases, no matter what the type of injury, show poor end-results.

7. Traction, when needed, must be slow, steady and sustained. The duration of traction is dependent on (*a*) duration of fracture, (*b*) extent of overlapping and (*c*) the musculature of the patient, the purpose being to "set" the muscles and allow the fragments to aline.

8. Acute flexion for fractures about the elbow joint (olecranon excepted) is the treatment of choice.

9. The earlier the reduction, the better the end-result.

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RETROPERITONEAL PELVIC ABSCESS IN THE MALE

REPORT OF CASE *

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In view of the paucity of the literature and the difficulty in making a diagnosis in cases of retroperitoneal abscess in the male, the report of this case is considered worth while. In 1886, Burchard[1] presented reports of five cases seen by him in fourteen years, several of these in consultation. He also cited one case reported by Bowditch, and stated his belief that these cases were more frequent than was usually supposed. He stressed the pathologic changes and recounted the tendency of these abscesses to burrow and dissect in every direction, up as far as the diaphragm and down into the thigh. He especially emphasized the difficulty in making a diagnosis and commented on the obscurity of the etiology. In several of these cases, diagnosis was made when the abscess ruptured, either into the rectum or exteriorly. In the six cases mentioned, three patients died, one directly of the sepsis, one of nephritis and the third of tuberculosis. One case became chronic with discharging sinuses; in two in which the details were not given, the patients recovered.

In 1913, Thomas[2] reported the case of a man who had been ill with vague symptoms for months, when he passed a quantity of pus by rectum and apparently recovered. Five years later the diagnosis of abscess was made, and it was drained retroperitoneally.

At a meeting of the Philadelphia Academy of Surgery in 1913, two cases were reported.[3] These were in children, aged 8 and 10, respectively, following injury and osteomyelitis.

Though cases cannot be as rare as this would indicate, no others are found in the literature. The condition is at least uncommon.

REPORT OF CASE

W. E. F., a man, aged 64, a preacher for many years, and then a carpenter, presented a negative history except for scrofulous glands in the neck during childhood, which were removed surgically. There was no venereal history. The patient had always appeared emaciated but had manifested good resistance to disease. For several months he had been building a home and had occupied himself with this in his leisure time, thus working from fourteen to sixteen hours each day.

After a siege of boils lasting for months, he began, Sept. 6, 1925, to have diarrhea, from no known cause, for which reason he remained at home but attempted to work about the house. Diarrhea continued for ten days, when suddenly obstipation ensued, associated with severe pain, first in the shoulders, later in all the joints of the body, the lumbar region of the spine, the calves of the legs, and the abdomen. When first seen, he had been unable to sleep for three nights because of the pain. At first mild sedatives were used but without effect, and it was necessary to give morphine before relief was obtained. Half a grain (0.03 Gm.) by mouth relieved him for seven hours, when he was again awakened by the pain.

The patient was emaciated and was suffering considerably. The temperature was 98.4; pulse, 54; blood pressure 122 systolic and 74 diastolic. The radial arteries were easily palpable half way to the elbow. He was very weak and staggered on attempting to walk. The teeth were in poor condition, with extensive pyorrhea and caries. The tonsils oozed pus on pressure, a culture showing, besides the common throat organisms, *Streptococcus viridans*. A few piping râles were heard on both sides of the chest. The heart sounds were clear. There was no panniculus adiposis; the abdomen was tender and generally spastic. Much gurgling in the bowels was heard during palpation of the abdomen. There was a bilateral indirect inguinal hernia. On chemical examination, the blood was normal. A blood count showed hemoglobin, 88 per cent; red cells, 4,770,000; leukocytes, 6,300. The urine and stools were negative for pathologic components. Proctoscopic examination revealed a colon sagging slightly into the rectum. This was thought to be due to an obstruction above the limits of the sigmoidoscope. The prostate was large, soft, boggy and tender, but well delimited. Fluoroscopic examination of the chest showed a tortuous aortic arch.

Neurologic examination was negative except for marked weakness, which in the course of two days made it impossible for the patient even to turn in bed. For a time this applied to all the limbs, but the arms slowly improved. During the second day in the ward the temperature was from 97 to 98.4 and remained so for ten days. Retention of urine developed, and frequent catheterization became necessary. The pulse gradually increased so that it reached normal, from 72 to 76, by the fourth day. The spinal fluid was entirely normal.

In the meantime, consultation from every specialty except neurology was obtained. By the fourth to the seventh day, the vesical and anal spincters were relaxed. Abdominal surgery was considered, but enemas and hypodermic injections of pituitary extract entirely relieved the abdominal distention and pain, making immediate surgery seem unnecessary. The leukocyte count on the fourth day was 19,500. Barium by mouth and by enema showed only a relaxed bowel wall. Genito-urinary examination revealed clear and normal urine from each kidney, and a normal pyelogram but a purulent cystitis. The latter was evidently secondary to a relaxed vesical sphincter and catheterization, as the urine was clear at the first examination. There was no evidence of primary urinary or gastro-intestinal disease. However, there was evidence of pus somewhere, as the leukocyte count rose to 34,000 and remained at 28,000 after the bladder had been rendered aseptic. The temperature increased to 101 and the pulse became rapid, from 100 to 120. About thirty pustules appeared in crops over the dorsolumbar region, face and hands. Cultures were made from these, revealing *Staphylococcus albus*. The patient's condition was steadily growing worse.

Two weeks after entrance a tumor mass developed in the left inguinal region, which, on account of the old hernia and the amount of pituitary extract used, was thought to be a hernia. Attempts at taxis failed. The swelling was then opened under lumbar anesthesia, and sanguineous pus was found; but there was no evidence of peritonitis. No viscus was present in the sac.

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* From the Neurological Clinic of the Battle Creek Sanitarium.

[1] Burchard, T. H.: Pelvic Abscess in the Male, M. Rec. **29**: 461 (April 24) 1886.

[2] Thomas, T. T.: Large Retroperitoneal Abscess of Uncertain Origin, Drainage by Groin, M. Times **41**: 109 (April) 1913.

[3] Speese, J.: Retroperitoneal Abscess, Tr. Philadelphia Academy of Surgery **16**: 156, 1914.

This region was thoroughly drained through the wound, as the spermatic cord and bladder peritoneum showed evidence of necrosis. The fluid obtained through the drain appeared urinous, but it was mixed with pus. A self-retaining catheter was inserted.

Four days after the operation, an enema was given. Feces and pus welled from the drains. The whole site of operation then sloughed, leaving a large sinus, which discharged freely. No peritonitis occurred. The patient gradually lost ground for three weeks, during which time feces and pus discharged freely. He died of general toxemia and exhaustion.

At necropsy a liter of yellow pus was found retroperitoneally. This filled the pelvis, extending from the perineum to the brim of the true pelvis and surrounding the rectum. The rectum was perforated 2 inches above the anus.

COMMENT

The outstanding features of the case were the obscure etiology, which was not absolutely solved even at necropsy, and the extreme difficulty in arriving at a diagnosis before the abscess ruptured. The occurrence of the pain in the lumbar region and the calves of the legs, with extreme weakness of the lower extremities and relaxed vesical and rectal sphincters, all pointed to a lesion of the spinal cord. But these symptoms were all explained at necropsy by the occurrence of pus surrounding the nerves in the pelvis.

A NEW MEDIUM FOR GONOCOCCUS CULTURE *

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AND
L. E. VITERI
PHILADELPHIA

The cultivation of the gonococcus is so thoroughly dependent on ideal cultural conditions that very slight deviations from that ideal make for failure. To one who tries to grow this germ it early becomes apparent that much in the literature on the subject should be rewritten, for there is much of a negative nature that really belongs to faults in the medium and is not to be attributed to peculiarities of the gonococcus itself. There are few pathogenic bacteria about which more romance has been spun. One investigator finds that certain things prevent its growth in culture, and another finds the same things to be essential to its growth. One early investigator popularized one of our most common mediums of today for the special reason that he was able to grow what he called the gonococcus on it, and today we use it as a differential medium because we say the gonococcus will not grow on it in initial culture. One group of investigators tells us that we must reduce the oxygen tension to get good growths, and we break countless test tubes in following them only to find that the culture grows equally well and probably better at normal oxygen tension. One could write chapters on the false leads of gonococcus culture.

For these and other reasons, the impression has gone abroad that the gonococcus is an extremely hard germ to grow and it should be tried only by the most skilled bacteriologist. The real truth of the matter is that if just a few conditions are complied with it is as easily grown as most of the other micro-organisms. The difficulty does not rest with the bacteriologist unless he makes the culture medium, for success or failure rests with the medium and not with the other technic. Given the proper food and drink, the gonococcus behaves practically as the other easily culturable germs do and not as the profession at large thinks it does.

It is our feeling that the time is here when we should drop many of our false ideas in this regard, for they have done much to retard our progress in the general understanding of the disease. There is much in the behavior of the germ in culture to explain its action in the tissues themselves, and there is need for greater knowledge on many of the cultural phases.

The essential things to good growth are proper food at a hydrogen ion concentration between 7.3 and 7.7 and much moisture. If these three things are complied with, one can subject the culture to all sorts of temperature indignities before placing the tube in the incubator, and still the germ will grow. He can take the culture at the hospital, put it in his satchel for a day or two, even in the winter, and when he finds it convenient he can incubate it and it will grow. Or, he may put it in his overcoat pocket and throw the coat over the average steam radiator much above body temperature and, if it is not too good a radiator, still the culture will grow when incubated. We have subjected cultures to greater indignities than either of these and have found that they invariably grew if the medium was right. Surely a germ that will live hours on a block of ice, days at room temperature and rather long periods at temperatures considerably above the supposedly fatal one of 41 C. should not be called delicate and hard to grow.

The making of the mediums that heretofore have given us our best results have, however, presented some difficulties and have been the cause of many disappointments. Beyond the trouble of obtaining some of their ingredients there has been much difficulty in handling them in quantity without other bacterial contamination. These were the chief sources of our early disappointments and the reason why we began to search in other fields for mediums that required less handling and received their sterilization when completed, instead of when only partially so.

Of the many mediums devised for the growth of the gonococcus, those containing a high percentage of albuminous fluids, such as blood serum and hydrocele or ascitic fluids, have given us our best results. These possess very obvious disadvantages. The albuminous fluids are at times difficult to obtain in quantity; they require much handling, which often means contamination, and they cannot be subjected to sufficient heat for sterilization without becoming coagulated. The use of such substances as nutrose to prevent this coagulation is complicated; it is not always reliable and introduces substances not best for the germ.

The gonococcus grown on hydrocele agar, or either of the other like mediums, grows luxuriantly and autolyzes quickly, so that subcultures must be taken every second or third day if the strain is to be kept viable. This greatly increases labor, is a distinct disadvantage, and has done much to retard the studies of the germ.

For these and other equally important reasons, it seemed imperative to find some medium that had equal advantages and lacked their disadvantages. In the search for this, certain fundamental requirements were laid down as follows:

1. The ingredients must be easy to obtain.
2. The medium must be simple and easy to make.
3. It must be unharmed by autoclaving.

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* Aided by a grant from the S. C. Childs Research Fund.

* From the Department of Urology, University of Pennsylvania.

* Read before the Eastern Pennsylvania Chapter of the American Association of Bacteriologists, Philadelphia, Oct. 26, 1925.

4. It must grow the gonococcus from fresh gonorrheal pus.
5. It must also grow it in indefinite subcultures.
6. It must not bring about such early autolysis as do the albuminous mediums but should prolong viability for far greater periods.

After trying countless substances previously tried and many apparently new ones for the purpose, we have been able to make a medium that fulfils all the foregoing requirements to a degree far beyond our expectations. It is in only one respect very slightly inferior to our former best mediums. While it gives just as many positive first cultures, they are not usually so luxuriant, but in subcultures the growth picks up so that it is equal to those on the other mediums. In all other respects it is vastly superior to the others. Its ingredients are obtainable anywhere; it is as simple to make as plain agar; it keeps indefinitely; it can be autoclaved after it is tubed; it is as clear as good agar medium, and it will retain a viable growth for as long as one month.

METHOD OF MAKING NEW MEDIUM

A calf's brain, weighing approximately 500 Gm., is forced through a wide-meshed gauze into 500 cc. of distilled water and placed in the icebox for twenty-four hours. It is then filtered several times through cotton of varying degrees of compactness. The resultant fluid is turbid, no matter how often it is filtered. To this is added 0.5 per cent of acid sodium phosphate and 1 per cent of peptone. It can now be autoclaved at 15 pounds pressure for twenty minutes and kept as stock, or the final steps for its completion can be carried out.

To complete the medium it is necessary simply to add one part of the brain bouillon to three parts of standard 2.5 per cent agar medium made from veal broth, with the addition of 0.5 per cent of sodium chloride and 1 per cent of peptone. It should then be adjusted to a p_H of 7.8, which allows for a reduction of two points in autoclaving, 7.6 being the desired end-point.

The medium is then tubed, autoclaved and slanted. After it solidifies, the usual cotton plug is replaced by a sterile rubber cork to retain the water of condensation, and the medium keeps indefinitely.

When it is completed and cooled, some flocculation is present in the butt of the tube. This can easily be removed if the medium in bulk is placed in the autoclave, quickly brought to 15 pounds pressure, removed, filtered, tubed and replaced in the autoclave for the completion of sterilization. While this improves its appearance, it seems to make some change in it which causes more scanty growths; consequently, we have not made use of it, preferring a good medium rather than a pretty one.

SUMMARY

1. Gonococcus culture, provided the medium is good, is as easy as other ordinary routine cultures.

2. Much of the literature on its culture should be rewritten, for medium faults have been interpreted as peculiarities of the germ itself.

3. The profession at large has a false impression regarding its culture that has done much to retard the studies of the germ.

4. Our best mediums heretofore have been hard to make; they frequently became contaminated through the necessary handling; they could not be sterilized by heat, and the germ usually died on them well within a week.

5. A new medium is presented that is as simple to make as ordinary agar. It can be autoclaved after completion; it gives as many positive first cultures; it grows the germ indefinitely in subcultures and retains its viability for at least one month.

825 Medical Arts Building.

Clinical Notes, Suggestions and New Instruments

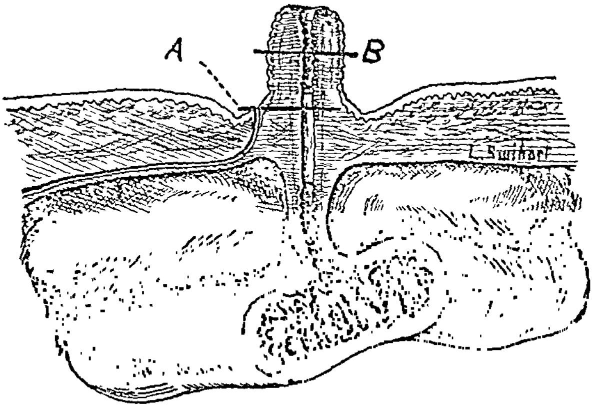
PERSISTENT OMPHALOMESENTERIC DUCT AND URACHUS IN THE SAME CASE

Herbert H. Davis, M.D., and F. W. Niehaus, M.D., Omaha

Though it is not uncommon to find a case of patent urachus or patent omphalomesenteric duct, to have the two in the same patient is very rare. We have been able to find only two such cases in the literature.

REPORT OF CASE

R. H., a boy, aged 1 year, was admitted to Clarkson Hospital, Feb. 26, 1925, with the complaint of discharge from the umbilicus. The physician who delivered him made the statement that at birth, March 5, 1924, the umbilical cord was very large. When he was 6 days old, his father reports, some material that looked like feces was discharged from the umbilicus. Since then there had always been some moisture at the umbilicus. At 6 weeks the physician cauterized the umbilicus with a silver nitrate stick. This had no effect and there had been some liquid discharge ever since. The child was well nourished. A dressing over the umbilicus was moist with a small amount of urine. At the umbilicus was an elevated pouch covered with mucous membrane which was red and bled easily. In the center was a small sinus from which came a small quantity of urine. It was impossible to pass a probe up this sinus. Owing to a slight cough, the operation was postponed until March 2.



Schematic drawing from gross and microscopic findings: *A*, plane of section through base; *B*, plane of section through protruding mass.

Under ether anesthesia an elliptic incision was made about the umbilicus and a sinus tract which appeared to go to the bladder was dissected out. There seemed to be a small branch from this tract extending inward into the abdomen at its upper end, but this was rather indefinite, and thinking we had simply a patent urachus, no more attention was paid to it. The sinus tract definitely led into the bladder. At its entrance into the bladder it was cut off and the stump inverted with a purse-string suture, as is done with an appendix. At this time the anesthetist warned us that the patient was very pale and the pulse was rapid and thready. The peritoneum was bluish as if there was a hemorrhage beneath it. Because of this and symptoms of hemorrhage, the peritoneum was incised. The peritoneal cavity contained considerable blood, and at the free edge of the ileum at the common location for a Meckel's diverticulum was a spurting artery. This was the omphalomesenteric artery, which had persisted and had been cut as we did not realize that there was a patent omphalomesenteric duct. This artery was tied off and the raw surface inverted with a purse-string suture. The wound was closed without drainage.

The umbilicus and adjacent tissue was removed. A mass measuring 1.5 cm. in length and 1 cm. in diameter protruded from the external surface. This had a definite shape, resembling an everted piece of intestine. The incision through the skin of the abdominal wall was made 0.4 or 0.5 cm. around the base of this protuberance and extended from 0.8 to 1 cm. in depth.

Serial sections made through the base showed that it consisted chiefly of fibrous tissue partly covered with squamous epithelium *(A)*. In the fibrous tissue were many blood vessels and some sebaceous glands. In all the serial sections there was a tube measuring 1 mm. in diameter. This was lined with transitional stratified epithelium and filled with a crystalline substance. This tube was undoubtedly a patent urachus. Through the center of the fibrous tissue there was an irregular, ragged lumen not lined with any epithelium. This had the appearance of something having been torn from it.

Sections taken through the protruding mass (*B*) showed it to be an evaginated piece of intestine showing all structures of the wall, on the inside and the outside of the protuberance.

These findings indicated that there was both a patent urachus and an evaginated patent vitelline duct, the latter forming the red protruding mass which, when cut at operation, permitted the distal part to evaginate farther. This, together with the manipulation and traction necessary at operation, pulled the intestine through the base, leaving an irregular opening.

With hypodermoclysis the boy's condition improved rapidly. Healing was by primary union and he left the hospital, March 16, with the wound healed and apparently in excellent condition.

June 26, his father reported that the wound had stayed closed and there had been no discharge.

PREVIOUS CASES

Lexer's[1] patient was a boy, aged 1½ years. On the fifth day after the cord came away, fluid was seen coming from the umbilicus, also a reddish tumor at that location, which finally disappeared. After the use of salves and plasters for six months the fistula closed, but this caused general systemic disturbances. When the fistula reopened, a large quantity of watery fluid escaped and at one time, it was thought, some pus. There was a marked congenital phimosis, and each time that the child urinated considerable urine escaped from the umbilical fistula. Four weeks after the prepuce had been cut the urine flowed normally and the fistula decreased in size. A sound could be passed through the fistula toward the bladder. Owing to the poor condition of the child, a further examination could not be made, but a line of granulation tissue communicating with the fistula was noted. The sac was dissected out and the wound closed. Microscopic examination of the fistulous tract, which was 7 cm. long, showed that it was a persistent omphalomesenteric duct. Cross-section showed a well developed intestinal mucosa, lined with cylindric epithelium and having typical Lieberkuhn's glands, and also circular and longitudinal muscle fibers. The history clearly shows the existence of a urinary fistula, and microscopic examination shows a tube lined with intestinal mucosa.

Cullen[2] reports another case, related to him by Dr. Heflin. A boy, aged 14 months, had bleeding from the umbilicus two or three days after birth. Aside from this and a tight prepuce, which had to be released, he was perfectly well. Constipation and crying caused bleeding from the umbilicus. Bleeding was stopped temporarily sometimes by pressure, sometimes by the use of the cautery, epinephrine or hydrogen peroxide, but in spite of these hemorrhage continued and the child became quite anemic. A small piece from the umbilicus microscopically suggested malignancy. Since birth there had been some discharge from the umbilicus, which had the odor of urine and at other times suggested feces. On operation an elliptic incision about the umbilicus showed a continuous fistula 3 inches long, from the umbilicus to the ileum. He removed this and inverted the stump at the ileum. He also found a second patent tube attached to the umbilicus and extending toward the bladder. He tied it off with catgut at the bladder and closed the wound.

Sections through the mass of the umbilicus showed two distinct tubes. The larger one was almost circular and lined with intestinal mucosa of the type found in the ileum. Surrounding the mucosa was muscle. The smaller tube was somewhat disorganized but was surrounded by muscle, and its inner surface consisted chiefly of granulation tissue which had become organized, with some polygonal cells and some lymphoid cells. This undoubtedly represented the degenerated urachus.

The case that we report also illustrates the possibility of persistent omphalomesenteric artery which might be the cause of serious hemorrhage following resection of the vitelline duct.

SUPPURATION OF THE SHOULDER JOINT: REPORT OF TWO CASES

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The two cases of abscess of the shoulder joint here reported are of interest in that one case illustrates the results of neglecting to operate until destruction of joint structures has occurred, while the other shows the effects of comparatively early treatment.

REPORT OF CASES

Case 1.—A boy, aged 16, seen, Jan. 18, 1924, had injured his right shoulder severely in a football game during October, 1923. A roentgen-ray examination at the time disclosed no fracture. The shoulder continued to be very painful, and during December, two months after the injury, a marked swelling of the part developed. This received no treatment except by a chiropractor, until I saw the patient four weeks later. Examination at this time showed a considerably emaciated boy, with a marked swelling of the right shoulder, especially prominent on the anterior aspect, giving a sensation of fluctuation. The leukocyte count was 7,500, and there was a slight rise of temperature in the evening. A quantity of pus was aspirated to relieve the tension, and a study of this showed no tubercle bacilli but many staphylococci. Roentgen-ray examination of the shoulder at this time showed evidence of osteitis in the lower angle of the glenoid process.

January 26, the joint was opened by an anterior incision and a large quantity of thick pus was evacuated, which had burrowed extensively between the muscle and fascial layers of the shoulder and arm. The necrotic bone was partially curretted away, and thorough drainage of the shoulder joint and arm was established. Following operation, the infected areas were irrigated with surgical solution of chlorinated soda (Dakin's solution) several times a day. An autogenous vaccine was given at this stage. The discharge and swelling rapidly subsided and the patient left the hospital at the end of four weeks, although there remained a small discharging sinus. The sinus persisted until August, 1924, when a small sequestrum made its way to the surface, after which the sinus remained closed permanently. No attempt was made to immobilize the shoulder. Although there is now a complete ankylosis between the humerus and the scapula, the patient can use his arm, and to the casual observer there is very little disturbance of function.

Case 2.—A woman, aged 35, seen with Dr. H. L. Coleman of Farragut, Iowa, June 24, 1924, had had an induced abortion a year previously, following which she had a high fever and chills, presumably from a pelvic infection. A month before I saw her she was operated on for pelvic complications, an appendectomy and a double salpingectomy being performed; she made a good recovery. Ten days previously, she began to have pain in the right shoulder, which became very severe and which was accompanied by an intermittent fever and rapid pulse.

When seen, the patient had a fever of 104 and a pulse of 130. There was marked swelling of the right shoulder, with a sensation of fluctuation. Pus obtained by aspiration showed the presence of streptococci. The patient was taken to the hospital, and the shoulder joint opened by an anterior incision. The joint capsule had ruptured, and a large amount of thin pus was evacuated from the joint cavity and surrounding structures.

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[1] Lexer, E.: Ueber die Behandlung der Urachusfistel, Arch. f. klin. Chir. 57: 73, 1898.

[2] Cullen, T. S.: The Umbilicus and Its Diseases, Philadelphia, W. B. Saunders Company, 1916.

The infected area was treated freely with surgical solution of chlorinated soda. The infection rapidly cleared up and the patient went home in fourteen days, with no remaining effects of the trouble except considerable stiffness about the shoulder. There was no ankylosis.

COMMENT

These cases illustrate the importance of the early drainage of suppurating joints. Immobilization may be advisable early in severe cases, but as the severity of the symptoms abates it is probably best to allow considerable freedom of movement combined later with passive motion. The active exercise of suppurating joints, as advocated by Willems,[1] seems too severe for the more acute cases. If ankylosis seems unavoidable, precautions should be taken to establish the most useful position of the parts that is possible.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

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(Continued from page 625)

PERLINGUAL ADMINISTRATION

It seems that the absorptive power of the mucous membrane of the mouth and tongue and especially that underneath the tongue, and the rapidity with which medicaments can be made to enter the systemic circulation, are not sufficiently appreciated by physicians. The sublingual space, it is asserted, offers a more direct entry into the general circulation than does the stomach.

Paulson,[25] who first devised this method thirty years ago, asks any one to be "good enough to refresh his memory by looking in the nearest mirror at the sublingual space, noting the thin membrane, the considerable area, and the large veins, denoting a free flow and return of blood. The space is always smooth, never furred like the tongue, never shielded by mucus, as the stomach always is when in active rebellion or, may be, masked by half-digested food." The surprising efficiency of perlingual administration might further be accounted for by the fact that the agent thus applied escapes not only the digestive ferments but also, to a much greater extent than when given perorally, the destructive influence of the liver cells—those ever alert guardians of the body against poisons entering the system by the usual gate of entrance, the portal vein.

"The only preparation necessary is rinsing with water, if the mouth is dry. A hypodermic tablet, powdered with the point of a penknife, on paper creased in the center, and dropped just behind the teeth, the tongue being restored to its normal position, will be absorbed in a few seconds. The full effects of the dose may be absolutely depended on, almost immediately." In emergencies, a morphine and atropine tablet thus administered relieves pain and shock as nothing else will. An apomorphine tablet given in this way will very soon induce vomiting. Compared with hypodermic injection, Paulson considers the perlingual method quicker, easier, safer, cleaner, and far more reliable. It needs no precautions as to sterilization, and can be given by any one without the personal attendance of the physician. The point to remember is that the patient must not swallow until the taste of the drug has disappeared. Cooper[26] and Murtz,[27] from their own clinical experience, endorse all that Paulson has to say regarding the advantages of this method.

Not only the sublingual space but also the rest of the oral mucous membrane, even the back of the tongue, is endowed with absorbent quality, though there is probably a great difference in the ease and rapidity with which various agents are admitted to the circulation through this membrane; and a large number of exact experiments on this important question is urgently needed.

Bachem[28] quotes experiments performed in 1912 on trachiotomized rabbits with ligated esophagus, from whose mouth potassium chlorate was absorbed so that up to 20 per cent of it was eliminated in the urine. Iodine, salicylic acid, phenol, morphine, strychnine nitrate and antipyrine were also rapidly absorbed to an appreciable degree. Barbital sodium, on the other hand, was hardly absorbed at all. Brief experiments on man were negative with iodine, weakly positive with salicylic acid. Mendel[29] asserts that especially the lipoid soluble drugs are easily absorbed from the tongue, when rubbed over its dorsum. While the action of nitroglycerin, when swallowed, is uncertain, 1 drop of a 1 per cent alcoholic solution of it smeared over the tongue acts quickly. Atropine sulphate, strychnine nitrate and other alkaloids in alcoholic solution likewise act as if they had been given by injection. Strophanthin, 2 drops of a 1 per cent solution, applied in this manner, acted in from fifteen to thirty minutes. He had "perlingual tablets" prepared, containing sodium bicarbonate and tartaric acid, so as to obtain rapid disintegration and possibly also the carbon dioxide stimulation of absorption.

There can be no doubt that aromatic spirit of ammonia, rubbed by means of gauze and cotton over the tongue of a collapsed and comatose patient, must give us better reflex stimulation than the mere smelling of it.

An interesting attempt has of late been made to use this method for the introduction into the system of insulin, which, as is well known, does not act when swallowed, because it is destroyed by the digestive ferments.

PERORAL ADMINISTRATION

In General.—In view of the probable importance of perlingual administration, it seems that the term "oral administration" which has hitherto been applied to the swallowing of medicines will have to be changed to "peroral administration"; for surely the giving of drugs on or under the tongue is more truly the "oral" method than swallowing them.

Peroral administration is the most ancient and most convenient method of giving drugs for systemic action. Hence such medicines should always be administered perorally, unless there is a distinct advantage to be gained by other methods. Even when the patient cannot swallow, the remedy may at times be most advantageously introduced into the stomach by means of the stomach tube, or by a catheter introduced into the nose (gavage); and, when the patient vomits, the duodenal tube may still make possible ingestion by the alimentary tract When, however, the remedy deranges digestive functions or digestion destroys the remedy; when there is vomiting and purging, or gastric inflammation or ulceration, the burden of absorption may have to be placed elsewhere. When absorption from the alimentary tract is too slow because of shock, collapse or circulatory stasis, or the emergency is too great, more rapidly acting modes of administration will have to be chosen. As long as a substance simply remains in the alimentary tract, it can merely have a local action on its walls. It cannot affect the cells of the body at large any more than if it were held in the hollow of the hand. This makes evident the importance of studying the conditions influencing absorption, which are:

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[1] Cohen, Harry: Suppurative Arthritis, New York M. J. **117**: 163 (Feb. 7) 1923.

* This is the tenth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

[25] Paulson, W.: Sublingual Medication, Practitioner **97**: 389 (Oct.) 1916.

[26] Cooper, P. R.: A Note on Sublingual Medication, Practitioner **97**: 493 (Nov.) 1916.

[27] Murtz, A. P.: Sublingual Medication, Practitioner **97**: 582 (Dec.) 1916.

[28] Bachem: Resorption von Arzneimitteln in der Mundhöle, Klin. Wchnschr. **3**: 461 (March 11) 1924.

[29] Mendel, F.: Die perlinguale Application der Medikamente, München. med. Wchnschr. **69**: 1593 (Nov. 17) 1922.

1. Physical and chemical peculiarities of the substance to be absorbed. As long as a substance remains undissolved, it cannot be absorbed. "Bodies do not act except in solution." Hence solubility is an important factor in absorption. However, drugs insoluble in the test tube may become soluble by the action of the digestive juices, while some that are soluble in vitro may be thrown down in insoluble form in the stomach. Volatile substances penetrate tissues more rapidly than nonvolatile substances. Alkaloids are more readily absorbed than glucosides.

2. Concentration. Substances are more rapidly absorbed when they are swallowed in solution than when taken dry, evidently because of time consumed in solution. On the other hand, the more concentrated the solution, the more rapid its absorption. Pure substances are more quickly absorbed than when inert or insoluble matter is intimately associated with them; thus, morphine is absorbed more quickly when given pure than when given in the form of opium, in which it is mixed with gums and other bodies and from which the morphine must be extracted before it can be absorbed. The pure, active principle should therefore be preferred when general action is desired; the less pure forms, such as extracts, when local action on the alimentary tract is to be elicited; e. g., morphine against pain, opium against diarrhea. It will now readily be seen why a full stomach delays general, and lessens local, action; why, for instance, a certain quantity of whisky on an empty stomach may intoxicate one while twice the quantity taken on a full stomach may not.

3. Vascular conditions of the absorbing surface. Absorption is in direct ratio to the rapidity of blood perfusion in the part. Hence irritants, by increasing the blood supply, favor absorption. On the other hand, absorption is in inverse ratio to the relative quantity of the circulating fluid; hence bleeding or purging, or the intravenous infusion of hypertonic solutions (osmotherapy) favors absorption by depleting the system of fluid, which is then greedily absorbed from any place where it may be available. Absorption from dropsical areas is very poor.

4. Nervous conditions. Shock and collapse, extreme pain and delirium, delay absorption in some manner as yet not completely understood, acting probably, in part, by impairment of the circulation, and in part by delay in the evacuation of the stomach. Under these conditions, drugs must not be pushed beyond the line of safety, for the patient may develop symptoms of poisoning when he rallies from his original condition. Thus, with a patient in excruciating pain or in violent delirium, morphine given by mouth—and even hypodermically—may be so slow in acting as to tempt one to premature repitition of dosage, with resulting morphine poisoning appearing soon after the effect commences to set in. In such cases it is best to call to our aid a differently acting sedative, such as chloroform inhalation, rather than to give a possibly toxic total dose of a powerful remedy.

LOCAL VERSUS SYSTEMIC ACTION

In medicating the stomach and intestine, it must always be remembered that these supply great absorbent surfaces; it is only by insolubility or by nonabsorbability of the medicament that local action can be obtained uncomplicated by general action; thus, bismuth subnitrate gives local action because of insolubility; magnesium sulphate, because of nonabsorbability.

By properly timing the administration, one can make the medicine exert its action chiefly on the gastric wall or be introduced quite soon into the intestine. If the remedy is introduced when the stomach is empty, which is usually the case from half an hour to an hour before meals, it will have maximal action on the gastric mucosa. When the remedy is to act on the contents of the stomach, it should be given immediately before, during or after meals, according to whether its action is wanted during the early, amylolytic period of gastric digestion, or during the later—the proteolytic—period. Another way in which the action of a medicament may be confined to the stomach is to use it in gastric lavage, by introducing the remedy by means of the stomach tube, and withdrawing it before there has been sufficient time for absorption. This is the most rational way of using silver nitrate.

For action on the intestine, the remedy is best given two or three hours after meals, when the contents of the stomach are being emptied into the duodenum. If the stomach is not at all to be acted on, enteric pills or capsules or the duodenal tube may be resorted to. The giving of a remedy should be timed with due reference to the time required for its action. Thus, rapidly acting cathartics are given in the morning, slowly acting cathartics are administered at night, so that in neither case will the patient's sleep be disturbed by the action of the remedy.

For general action, if a single prompt impression is desired, the remedy is best given in fairly concentrated solution, on an empty stomach, and it should be made rather irritating and administered hot, for absorption is more rapid in the presence of hyperemia. If continued action is desired, the remedy is generally best given three times a day after meals, when by reason of the fulness of the stomach it is much diluted, so as to be least irritant to the stomach, and absorbed slowly and more continuously. Substances that interfere with gastric digestion or that may give rise to offensive eructations, as cod liver oil or asafetida, should not be taken until two or three hours after meals. Agents that have a very fleeting effect may have to be given oftener than three times a day, even every half hour; while substances that have very enduring action, like digitalis, need not be taken more frequently than once or twice a day, when it is merely desired to maintain an effect established by more energetic initial administration.

PLEASANT MEDICATION

"Every half minute spent in studying how to make your medicines pleasant is worth half an hour of any other kind of study," says Dr. Cathell in his "Book on the Physician Himself." While one can hardly agree with him in this completely—for efficiency is surely more important than palatability—one merely needs to contemplate the popularity that highly diluted minimal dosages of inoffensive remedies once had to realize that, at least as far as financial success is concerned, this statement may not be so far from the truth.

Let us therefore beware of nauseating doses. Only exceptionally does the disagreeableness of the remedy bring with it greater certainty of success, as is sometimes the case in hysteria, in malingering, and possibly also among those ignorant semibarbarous classes of society who still believe that it takes a "bad thing to drive out a bad thing." Under all other circumstances, everything possible should be done to render medicines pleasant in appearance, odor and taste. Patients at times absolutely refuse to take a nasty remedy. Hence really unpleasant medicines had better not be prescribed without consulting the patient about it. With children, the struggle required to force the dose down the rebellious little throat may at times do more harm than the medicine could possibly do good.

An important reason for the widespread use of proprietary remedies is the attention the manufacturer gives to the elegance of his preparations, and the lack of knowledge in this respect on the part of most physicians.

In prescribing any medicine, the first question should be: Can the medicine be made tasteless? Procuring tastelessness is probably the most successful way of obtaining pleasant medication or, at least, of avoiding unpleasantness. For, after all, appeals to the palate are largely an individual matter. Some people, for instance, like peppermint flavor; others abhor it. To tastelessness there can be no objection, excepting on the part of children, whose palate usually has to be bribed. To be tasteless, the substance must be insoluble in the mouth; but, to be active, it must dissolve in some part of the alimentary tract. Modern chemistry has provided a number of substances at once quite tasteless and yet active, such as albumin tannate, quinine ethylcarbonate and neocinchophen, though there are old substances of similar virtue—reduced iron, mild mercurous chloride, bismuth subnitrate, arsenous oxide.

Unless the substance is tasteless, the only way to render it absolutely tasteless is to encapsulate it. Even pills or tablets are not tasteless unless they are coated. The less expert a patient is in swallowing a pill, the more will he taste it; and the very patient who has difficulty in swallowing a pill is usually a sensitive person whose palate is easily offended. Coated pills or tablets should therefore be preferred to uncoated ones. Of course, the coating must be easily soluble. Gelatin coating probably disintegrates most easily. This does not confine us to the prescribing of manufactured pills, for by means of gelatin capsules any pharmacist can apply to a pill mass as efficient if not as elegant a coating as the manufacturer.

A knowledge of the use of capsules is indispensable to him who aims at pleasant medication. Capsules may be used not only for the coating of pills but also to envelop powders, as well as to enclose liquids. Whenever a solid substance is sparingly soluble, it is better prescribed as powder packed into capsules than as a pill mass; for only thus can one be sure of rapid disintegration. Fluids can likewise be rendered tasteless by encapsulation. Probably all are familiar with the use of gelatin capsules for disguising the taste of oily liquids; it may not be as well known that they can be used for the disguising of the taste of alcoholic or hydro-alcoholic liquids. Of course, capsules filled with such liquids cannot be kept for more than a few minutes, owing to the rapid softening of the gelatin. Any person can fill these capsules for himself by means of a medicine dropper just before taking the dose. In this manner, for instance, the bitter fluidextract of cascara sagrada, which is undoubtedly the most active of the preparations of this drug, can be administered without difficulty.

The progress of pharmacy in the elaboration of highly concentrated preparations, such as extracts and fluidextracts, and, still more, the progress of chemistry in isolating the active principles of drugs, has reduced in the case of most medicines the size of the dose to that of pills, tablets, or the capacity of the ordinary gelatin capsule, and has rendered the prescribing of bulky and nasty preparations, such as infusions and decoctions and even of tinctures, a relic of the past.

There are, however, some remedies the dose of which cannot be reduced any further. If these are oily liquids, and the dose is from one-half to one teaspoonful, the soft gelatin capsule may be resorted to, as a larger lump can be swallowed when it is soft. Most people can swallow without much difficulty an elastic gelatin capsule containing half a teaspoonful; and it is unwise to prescribe a larger one. In the dispensing of larger doses of powders, the cachet holds about the same relation to the capsule that the soft capsule holds in the dispensing of larger quantities of oils.

EFFERVESCENCE

Effervescence is a means of rendering certain medicines, especially salines, more acceptable to the palate and stomach. In lessening taste sensation, it acts chiefly probably by the liberation of innumerable gas bubbles the instant the charged fluid comes in contact with the warm surface of the gustatory mucosa, the tasteless gas physically displacing just that much of contact of solution with membrane. In addition, carbon dioxide is credited with a depressing effect on sensory nerve endings. Effervescence also makes medicaments better borne by the stomach, because it stimulates evacuation of the viscus. To impart effervescence to medicaments of offensive flavor, such as asafetida, is a mistake; for, while it may lessen the disagreeableness of the medicine as it is going down, it increases its tendency to come up from the stomach in the form of nasty eructations.

Heat and cold have a benumbing effect on the gustatory nerve endings, and hence may usefully be added to other means of lessening taste sensation.

Among the drugs that paralyze the nerve endings of taste, none have much practical value. The least objectionable is eriodictyon (yerba santa). It lessens a bitter taste, not sweet, salt or acid, but would have to be used some time before the administration of the bitter medicine to be really effective. Nevertheless, the aromatic syrup of eriodictyon of the National Formulary is a fairly pleasant vehicle for quinine (alkaloid) and other bitter medicines.

(To be continued)

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SATURDAY, MARCH 6, 1926

THE VENTILATION OF SCHOOLROOMS

It is a familiar experience that attempts to initiate progress through change in the varied fields of human interest are likely to run against the barriers of human inertia or traditional beliefs. It is easier to continue in the old ruts; it is not commonly agreeable to adopt radically new views; and it is usually less expensive to avoid innovations that mean the scrapping of old materials and provision of new substitutes. Occasionally the efforts at reform proceed in directions that prove to be unwise; in such instances a reversal of the adopted plans becomes doubly difficult.

This seems to represent the situation that is now confronting the promoters of proper ventilation in public buildings. In an earlier generation carbon dioxide, the waste product in the respiratory gases, was believed to be noxious if present in too large quantities in the atmosphere to be breathed. Presently attention was diverted to alleged organic poisons exhaled and emanating from the human body as the harmful ingredients in a vitiated atmosphere. Although Billings,[1] in 1884, exonerated carbon dioxide, he stressed the hygienic significance of the accumulation of this gas because it "is usually found in very bad company," because small variations in its occurrence were assumed to indicate corresponding variations in the amount of "those gases, vapors and suspended particles which are really offensive," and because variations in the carbon dioxide content of the air can be accurately measured by analytic chemical methods. As a consequence, carbon dioxide began to become a criterion of the hygienic purity of the air. Ventilation requirements were based on the desire to maintain atmospheres containing less than 6 parts of carbon dioxide per 10,000; and presently such intents were enacted into specific laws or regulations governing the ventilation of schoolhouses and other public buildings. This tendency, a logical step, resulted in public enactments in Massachusetts as early as 1902, in New Jersey in 1903, and in New York in 1904. In 1925, twenty-four states had specific regulations or statutory provisions, seven had secured legislation of a general sort, while only seventeen were without some form of legal provision on the subject of school ventilation. As an illustration of the most exacting and specific regulations, the Wisconsin law may be cited. It requires means for positive ventilation of 2 cubic feet of air a minute for each square foot of floor area, and the use of gravity direct-indirect systems is specifically prohibited.[2]

Meanwhile, scientific opinion regarding the fundamentals of ventilation has been entirely revamped. The thermal theory has come into vogue. Neither carbon dioxide nor vague noxious chemical exhalation products nor bacteria are held responsible for the detrimental influence of poorly ventilated rooms. The causes of discomfort are primarily excessive temperature and unpleasant odors. A recent writer[3] has defined the primary purpose of ventilation (in the absence of artificial toxic contamination) as the effort to maintain a comfortable environment for human occupancy. This, he insists, depends solely on the ability of the atmosphere to remove the body's excess heat. Good ventilation consequently results in the maintenance of an atmosphere of such temperature, humidity and state of motion as will cool the human body without chilling it. The most logical standard in use postulates the maintenance of a dry bulb temperature of from 65 to 70 F., and not exceeding 70 F., with an absence of drafts of cold air.

According to the latest findings on this basis, large rooms housing more than from seventy-five to a hundred persons require some artificial device such as plenum ventilation. The most satisfactory installations supply a small volume of cool air moving at a slow velocity and so directed as not to impinge directly on the occupants of the room. The schoolroom presents a problem different from that of an auditorium. Greenburg[3] has pointed out that the physical proportions of schoolrooms in general are such that with the usual number of occupants the heat produced may be dissipated easily without fear of chilling drafts by large quantities of cold air. He frankly argues that the fan system, developed on the basis of erroneous knowledge, should be abandoned because it fails to produce satisfactory atmospheric conditions. Its operation is notoriously poor and wasteful, and the initial cost is high. It is said also to lead to a high incidence of respiratory disease. Greenburg pleads for the window system of ventilation with gravity exhaust, which comparatively is highly efficient and inexpensive.

Among many ventilating engineers, this attack on mechanical ventilation systems, long regarded almost as a panacea for good health in schools, may meet with resistance. Palmer[4] proposes as ventilation specifications of the schoolroom from a hygienic standpoint the institution of coolness and air circulation, "irregular, fluctuating, intermittent, and, in amount, about half the present standard." Referring to the window ventilation with gravity exhaust, he remarks that we are witnessing the unparalleled situation of sanitarians asking for the privilege of securing health by the expenditure of less money. One may add the strange situation wherein the alleged better mode of ventilation is specifically forbidden by law in certain states and indirectly prohibited in others. Hence it is that "school ventilation still beats against a stone wall clamoring for relief."

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[1] Billings, J. S.: The Principles of Ventilation and Heating and Their Application, New York, 1884.

[2] Winslow, C.-E. A.: The Dead Hand in School Ventilation, Am. School Board J., June, 1925.

[3] Greenburg, L.: Necessity for Changes in the Ventilation Laws of the United States, Am. J. Pub. Health **16**: 13 (Jan.) 1926.

THE MAIN FACTORS IN TYPHOID INFECTION

Public health workers in the United States have been so generally accustomed to regard contaminated water and milk as the most common vehicles of typhoid, at least in the past, that it is something of a shock to find the experienced London county medical officer taking the stand that these factors have been overrated and that "some of the historical water outbreaks of cholera and typhoid fever were really in all probability due to fish or shellfish; and that many of the supposed milk and most of the ice cream outbreaks were similarly attributable." The immediate cause of this deliverance was, no doubt, an editorial[5] in THE JOURNAL suggesting that in the United States there is reason to think that when shellfish (oyster) infection now occurs it can be detected more readily than formerly, owing to the subsidence of the great wave of water-borne and milk-borne typhoid, which for a long time obscured the existence of minor sources of infection.

It is not our purpose to controvert the view that fish and shellfish have been important and, perhaps, the most important sources of typhoid in London during the last thirty-five years. In fact, the evidence for an opinion either pro or contra seems hardly adequate. True, the sale in London of *small, immature plaice*, fried and ungutted, is a possible factor in the dissemination of typhoid. At the same time, the desire to attribute the bulk of London typhoid to this cause appears to lead to unconscious exaggeration and distortion. The list of grouped cases in the London report for 1922 contains too many point blank statements of opinion—e. g., "some food (probably fish) again at fault"; "doubtless a food outbreak"; "very suggestive of food infection"—and no careful analysis of data. It is not convincing to be told flatly that outbreaks which at the *time they were studied*—e. g., 1894-1897—were ascribed to water or milk were "probably" due to fish. An *idée fixe* cannot take the place of a detailed epidemiologic discussion. Cockles and fried plaice may *in some instances be the vehicles* of typhoid, but the admission that a particular outbreak was caused by them demands definite evidence.

Moreover, the attempt to interpret the typhoid trend in other localities on the basis of London experience, real or fancied, requires vigorous protest. The history of water-borne typhoid in such cities as Philadelphia, Pittsburgh and Chicago is so plain that he who runs may read. It is almost equally clear and definite that an improvement in typhoid rates in this country has occurred following the general introduction of milk pasteurization. It is strange that in London "milk infection and carrier infection have only in rare instances seriously come into question at all." Probably the relative freedom from typhoid which London has enjoyed for many years has left the number of typhoid carriers at a low ebb; but even so it is difficult to persuade oneself that carrier infection should be so much more unlikely in London than in New York. As regards milk, it would seem that the supply in New York is on a safer basis than that in London. Milk-borne typhoid is by no means unknown in Great Britain, as the observations of Savage[6] and others have shown; and it is not easy to believe that it is altogether absent in London.

In brief, then, an unbiased observer will be prepared to accept the view that cockles, oysters and fried ungutted plaice are a relatively common cause of typhoid in London, but cannot admit that carrier infection, milk-borne infection and similar factors are entirely inoperative, or even materially less operative than they are elsewhere.

Among other interesting items, the London reports mention a number of typhoid cases among nurses—seven in 1922, seventeen in 1923, and thirteen in 1924. This rather high proportion, amounting to more than 5 per cent of *all* reported cases in *1923*, raises the question whether vaccination against typhoid should not be a routine practice in London hospitals as it is in many institutions in the United States.

THE FEMALE SEX HORMONE

In discussing the chemical triumphs to be recorded in connection with the investigation of the organs of internal secretion, reference was recently made[7] to the work of a few prominent investigators in the attempt to isolate the "active principle" in chemically pure form. Our attention has properly been called to the fact that few have attained success in this field without the help afforded by pioneers who paved the way through preliminary efforts, however crude these may have been. We build on the experience of the past. This is true in most branches of science. Sometimes a number of investigators working in an essentially independent manner arrive at the same goal almost simultaneously. Through chance announcement, though usually through some striking cogency or excellence of demonstration, the contribution of one person sometimes tends to be emphasized with the apparent disregard of others whose merits are by no means negligible

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[4] Palmer, G. T.: Am. J. Pub. Health **16**: 21 (Jan.) 1926.

[5] Oysters and Typhoid, editorial, J. A. M. A. **84**: 286 (Jan. 24) 1925.

[6] Savage: Milk and the Public Health, London, 1912.

[7] Crystalline Insulin—Another Chemical Triumph, editorial, J. A. M. A. **86**: 350 (Jan. 30) 1926.

This has doubtless been true in the study of the parathyroid function.[8] With reference to the ovary, it was remarked [7] that particularly the work of Doisy lends hope that, even for this gland, chemistry will throw much light on its function as a secretory gland. Here also, for proper perspective, it may be desirable to recall the noteworthy earlier contributions and give them their proper evaluation. The demonstration of a possible hormone-like influence exerted by extracts prepared variously from the ovaries, corpora lutea, follicular fluid, or placenta is by no means new [9] In 1922, Frank [10] reported that follicle fluid produced hyperplasia of the uterus, vagina and breasts in immature virgin rabbits The following year, Allen and Doisy [11] elaborated these findings by showing that the lipoid fraction carried this active fraction of the follicle fluid. The last named investigators deserve the utmost credit for having introduced the vaginal smear method of Stockard and Papanicolaou, which is a rapid and simple procedure for assaying the potency of the female sex extracts, into this type of research. The studies have been greatly extended in the chemical direction [12]

Through demonstrations by a variety of methods, including observations of the effects of extracts on the castrate rabbit, the vaginal smear of the castrate rat, and the spontaneous contraction rate of the isolated rat uterus, it seems likely that follicle fluid, corpus luteum and placenta contain a physiologically identical female sex hormone which induces premature puberty, brings on the sex cycle which in the unimpregnated animal culminates in estrus, but which, if impregnation takes place, reaches its acme in gestation and labor [13] Thus, Frank and his collaborators explain the seeming incongruity of finding an identical hormone in such anatomically and functionally dissimilar organs as ovarian follicle, corpus luteum and placenta; and they have coined the name "gestational gland" for this trinity which presides over the process of reproduction. Finally, the female sex hormone has been found in the circulating blood.[14] The various investigators engaged in analysis of the complex physiologic situations are not yet agreed as to the participation of the structures other than the follicle. Allen and Doisy have preferred to speak of the "ovarian hormone," whereas Frank and Gustavson, who regard it as also present in the placenta, prefer the designation "female sex hormone." The isolation of the active substance, though still in abeyance, no longer seems beyond the bounds of possibility in the not too remote future.[15]

Current Comment

THE REVENUE ACT OF 1926

The Revenue Act of 1926 is now a law. It abolishes the war tax imposed on physicians under the Harrison Narcotic Act, restoring the normal tax, $1 a year. This effects a saving to the medical profession of approximately a quarter-million dollars annually. Congress refused, however, to embody in the act language making clear the physician's right to deduct the expenses of attending medical meetings and of postgraduate study. The details of the act as they affect physicians are discussed elsewhere in THE JOURNAL. Professional groups other than physicians, dentists and veterinarians did not protest against being taxed for attending professional meetings and for devoting themselves to postgraduate study. This operated seriously against the appeals of the medical profession for relief. The lack of interest displayed might be attributed to the fact that such professional groups attend professional meetings and pursue postgraduate study less frequently than do physicians. Moreover, the ruling of the commissioner denying the deductibility of the expenses of such activities refers specifically to physicians and to no other group. The only redress the medical profession now has lies in an appeal to the Board of Tax Appeals. Such an appeal cannot be taken, however, by the American Medical Association, but must come from some taxpayer aggrieved by the commissioner's ruling In our contest on tax reduction an element of satisfaction has been the unanimity and energy with which state associations, county societies and individual physicians cooperated toward the desired end. National medical organizations not affiliated with the American Medical Association joined freely in the movement when their attention was called to the situation The success that was obtained in procuring the reduction of the Harrison narcotic tax may be attributed to this cooperation. To circumstances beyond the control of the profession must be attributed the failure with respect to the expenses of attending medical meetings and of postgraduate study. Out of it all, however, comes the vision of a better united and organized medical profession. This alone is worth even more than the material ends sought.

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[8] The Parathyroid Hormone—Retrospect and Prospect, editorial, J A M A **85**: 118 (July 11) 1925

[9] The earlier studies are reviewed by Knauer· Arch f Gynak **68** 322, 1899 Iscovesco Compt rend Soc de biol **73**: 104, 191 Aschner Arch f Gynak **99**: 534, 1913 Fellner Ibid. **100**: 641, 1913

[10] Frank, R T The Ovary and the Endocrinologist, J A M A **78**: 181 (Jan 21) 1922

[11] Allen, Edgar, and Doisy, E A An Ovarian Hormone, J A M A **81**: 819 (Sept 8) 1923

[12] Doisy, E A, Ralls, J O, Allen E and Johnston, C G The Extraction and Some Properties of an Ovarian Hormone, J Biol Chem **61**: 711 (Oct) 1924

[13] Frank, R T, and Gustavson R G The Female Sex Hormone and the Gestational Gland, J A M A **84**: 1715 (June 6) 1925 Frank, R T, Bonham, C D, and Gustavson R G A New Method of Assaying the Potency of the Female Sex Hormone Based on Its Effect on the Spontaneous Contraction of the Uterus of the White Rat, Am J Physiol. **71**: 395 (Oct) 1925

[14] Frank R T; Frank Marie Louise, Gustavson, R G, and Weyerts, W W Demonstration of the Female Sex Hormone in the Circulating Blood I, Preliminary Report, J A M A **85**: 510 (Aug 15) 1925 Loewe Klin Wchnschr **4**: 1407 (July 16) 1935

[15] References to the earlier attempts are given by Doisy, Ralls, Allen, and Johnston (footnote 12)

Association News

ABSTRACT OF MINUTES OF ANNUAL MEETING OF BOARD OF TRUSTEES, HELD IN CHICAGO, FEB. 19, 1926

An informal meeting of the Board of Trustees of the American Medical Association was held in Chicago, February 18, and the regular annual meeting convened the following day, Friday, February 19. All members were present except President W. D. Haggard and Dr. Thomas McDavitt, both of whom were prevented from attendance by illness.

REPORT OF BOARD OF TRUSTEES TO HOUSE OF DELEGATES

The annual report to be submitted to the House of Delegates at the Dallas Session was considered seriatim, before approval. The greater part of the time during the meeting was taken up in the consideration of this report.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

Dr. Ray Lyman Wilbur of the Council on Medical Education and Hospitals appeared before the Board of Trustees, outlined a part of the program of that Council, and solicited the cooperation of the Board of Trustees therefor. The response of the Board was favorable to the plans of the Council.

REPORT OF COMMITTEE TO COOPERATE WITH SECRETARY OF TREASURY

Dr. W. H. Mayer presented the report of the committee appointed to cooperate with the Secretary of the Treasury and the Commissioner of Internal Revenue in drafting regulations to govern the distribution of liquor used for medicinal purposes, of which he is chairman. This report will appear as a part of the annual report of the Board of Trustees in the Handbook of the House of Delegates and in THE JOURNAL for March 20.

REPORT OF COMMITTEE ON DISASTER RELIEF

Dr. William Allen Pusey, chairman of the Committee on Disaster Relief, submitted the report of that committee, which also will be made a part of the annual report of the Board of Trustees.

PENDING LEGISLATION

Dr. Charles W. Richardson reported on the status of legislation pending in Congress and designed to extend the Sheppard-Towner Act for a period of five years.

Dr. W. C. Woodward, executive secretary of the Bureau of Legal Medicine and Legislation, also presented a report on this subject.

MEMBERSHIP IN CHAMBER OF COMMERCE OF UNITED STATES

The General Manager of the Association was instructed to apply for membership in the Chamber of Commerce of the United States of America, with a view to securing the legislative bulletins and other services offered by this organization.

SCIENTIFIC EXHIBIT

Dr. D. Chester Brown, chairman of the Committee on Scientific Exhibit, submitted a report of this committee and indicated that the Scientific Exhibit to be installed at the Dallas Session will be unusually complete and of high quality.

APPROPRIATIONS

After consideration by the Finance Committee and the submission of the official report of that committee, the annual appropriations were made by the Board, including larger amounts for both scientific and therapeutic research committees and for bureaus and departments.

COUNCIL ON PHYSICAL THERAPY

Dr. H. B. Williams of Columbia University, New York, and Dr. Frank B. Granger, Boston, were elected to membership on the Council on Physical Therapy. The membership of this Council was increased to eleven members.

ELECTIONS

Consideration of the nominations to fill the vacancies on the Council on Pharmacy and Chemistry, on the editorial boards of the special journals, and on various committees resulted in the following elections:

Drs. Torald Sollmann, L. G. Rowntree and L. B. Mendel to succeed themselves and Dr. A. J. Carlson of Chicago to succeed Dr. Julius Stieglitz (resigned) on the Council on Pharmacy and Chemistry.

Dr. Joseph L. Miller to succeed himself on the editorial board of the *Archives of Internal Medicine.*

Dr. George Miller MacKee to succeed himself on the editorial board of the *Archives of Dermatology and Syphilology.*

Dr. Frederick Tilney to succeed himself, and Dr. Stanley Cobb, Boston, to succeed Dr. Hugh T. Patrick (resigned) on the editorial board of the *Archives of Neurology and Psychiatry.*

Dr. Fritz B. Talbot to succeed himself, and Dr. L. R. DeBuys of New Orleans as an additional member on the editorial board of the *American Journal of Diseases of Children.*

Dr. Isidor Friesner to succeed himself on the editorial board of the *Archives of Otolaryngology.*

Dr. Wallace I. Terry of San Francisco to succeed Dr. Thomas Cullen on the editorial board of the *Archives of Surgery.*

Dr. Montrose T. Burrows to succeed Dr. W. B. Cannon (resigned) as chairman of the Committee on Protection of Medical Research, and Dr. G. W. McCoy to succeed himself on that committee.

Dr. Ludvig Hektoen to succeed himself as chairman of the Committee on Scientific Research.

Dr. E. R. LeCount to succeed Dr. James B. Herrick as representative of the Association on the Division of Medical Sciences of the National Research Council, on expiration of the latter's term of service, June 30, 1926.

Expressions of appreciation were recorded by the Board of Trustees for the very valuable services rendered by Drs. Stieglitz, Patrick and Cannon in the positions which they have held so long, and it was with regret that the Board of Trustees accepted their resignations. Dr. Cullen also had rendered splendid service on the editorial board of the *Archives of Surgery,* and the appointment of a successor was considered only because the editor-in-chief of that periodical now resides in Baltimore, and it was felt advisable to have the Far West represented on this board.

WORLD CONFERENCE ON NARCOTIC EDUCATION

An invitation, presented through Mr. Richmond P. Hobson, president of the International Narcotic Education Association, to the American Medical Association to be represented at a world conference on narcotic education, to be held in cooperation with the Sesqui-Centennial International Exposition, at Philadelphia, July 5-10, 1926, was submitted. It was the sense of the Board that this invitation should be declined, and that the Association should not be represented at the proposed conference.

An invitation was received from the China Medical Association, to be represented at its meeting to be held in Peking, Aug. 31-Sept. 8, 1926. Dr. Charles H. Frazier of Philadelphia, who is to be in China at the time of the meeting of the China Medical Association, was appointed to represent the American Medical Association at that meeting.

WAR RESERVE OF NARCOTIC DRUGS

In accordance with the suggestion of the Committee on Narcotic Drugs, the Board of Trustees went on record urging that so much of the narcotic drugs confiscated by the custom service and the Bureau of Internal Revenue as may be in excess of current needs of the government and as may be necessary to build up a reserve for use of the Army and Navy in time of war be turned over to the War and Navy departments for the purpose of building up such a reserve.

Much routine business was transacted during the session.

The Board adjourned to meet in Dallas, immediately before the opening of the Annual Session.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Held in Chicago, Feb. 15, 16, 17 and 18, 1926

(Continued from page 631)

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

February 15—Afternoon

Hindrances to University Action in Medical Education

FROM THE UNIVERSITY STANDPOINT

Walter A. Jessup, Ph.D., Iowa City: The last quarter of a century reveals marked changes in the field of medical education. This has meant a tremendous readjustment within the universities: 1. It has been necessary to finance these new conditions so as to be able to provide staff equipment and plant according to the higher standards. 2. It has been necessary to develop related work to conform to the premedical requirements and also to afford access to the fundamental sciences through actual teaching and research. 3. It has been necessary to absorb a hard-boiled and inflexible curriculum in the midst of a changing program. 4. It has been necessary to administer this department of the university on an unvarying schedule of hours quite at variance with the rest of the university. 5. It has been necessary to leave the medical program out of the experimental activities characteristic of the best academic practice of the present day.

No one questions the great advance that has been made in medical education and medical service during this period. The reports of the Curriculum Committee in 1908 and the Carnegie Report of 1910 revealed deplorable conditions. All honor to the men who waged this campaign of yesterday. However, it is necessary for us to be ever on the alert as to ways in which we can improve our scheme of education. With the first expansion in the general program of education, there was great faith in elaborate systems of gradation and promotion. Within recent years has come a more widespread recognition of individual differences. When we look at the medical curriculum we find an almost absolute standardization as to the exact number of hours to be given to each of the laboratory sciences and the various clinical branches. Even the entrance requirements are likewise described in arbitrary terms. But little progress has been made in providing for experimentation on the part of the schools, permitting them to capitalize the advantages they naturally have in equipment and personnel. Last year Flexner said that our present fetters were forged in order to compel wretched medical schools to give unfit medical students a better training. Now that that end has been measurably accomplished the means have become a fetish, blocking further improvement. Within the past quarter of a century has come a great increase in the number of medical teachers. Should we not encourage these teachers to assume added interest in experimental questions of sound medical education?

Reading of the reports of this association in recent years leads one to believe that we have too much faith in our power to improve requirements by tinkering with them, adding an hour here and subtracting an hour there. The program of medical education should catch step with the rest of education and be experimented on in a whole-hearted fashion.

FROM THE STATE BOARD STANDPOINT

Dr. Eldridge M. Shanklin, Hammond, Ind.: The present day medical laws are, for the most part, rather antique; they were enacted at a time when medical education was a more or less haphazard sort of thing. There were a few good schools, as medical schools went in those days; there were many mediocre schools; there were many fraudulent institutions. Medical laws, then, were enacted to cover the three classes just mentioned. Due recognition should be given the monumental work of the American Medical Association through the Council on Medical Education and Hospitals in having so thoroughly surveyed the existing situation and having brought about the great changes that have taken place in the past few years. With the great improvement in medical colleges we find many provisions in the laws that not only work hardships on the modern medical schools but in many cases seen rather effectually to block their progress along certain lines. To the end that these objectionable features may be eliminated, a factor of great importance is that today there is a greater cooperation between the officers of our medical schools and the various state boards. One of the provisions, found in more than a dozen state laws, expressly forbids the appointment of an officer or a teacher connected with a medical school as a member of his state medical board. This was a very wise provision many years ago, but today we find it an unnecessary and an unwise provision.

Proposed changes in the curriculum, the stressing of certain of the subjects, and the minimizing of other subjects are matters of common interest, and with a university connection I am sure the board would be better able to handle the situation. In the question of the curriculum it might seem that the school should have sole authority to make changes. Yet the active, conscientious board member often makes observations in this regard that are not noted by the teacher in the school. Here a school member of the board would be of much service. Another question now being much discussed is that of the continuous school session. The cost of present day medical education is just now being much discussed, as to the cost both in dollars and in time. In fact, many would lower the educational requirements. In this I do not concur; but some provision whereby a student might eliminate one year of time, yet be required to have the same number of credit hours as now demanded, would meet the many objections to the present plan.

Another much discussed phase of our medical laws is that of the required preliminary education. In Indiana we have a provision requiring two years in a standard college or university, or its equivalent. This last clause, "or its equivalent," is one big stumbling block for us. We have never been able to define the meaning of this clause. Board members from other states are in the same dilemma. Many of the so-called minor subjects are neglected by many of our schools. The active board member, through his contact with students from many different schools, is in a position to make certain observations not noted by the school authorities. Here we have a cogent reason for preferring to have a school man on the board. I believe that the school authorities and the medical boards are not, after all, far apart; rather do I feel that our present situation is the result of misunderstanding of the matter and a lack of cooperation.

DISCUSSION

Samuel P. Capen, Buffalo: Who is to determine the methods and the substance of university education? In the course of the development of university education this question has been answered in two diametrically opposite ways. The first answer was that university teachers and administrators were the final arbiters. This answer could not be the permanent one. In the field of arts and sciences universities ignored the claims of modern life. In the field of professional education, the abuses were still more intolerable. There came then a new dispensation. Its first manifestation was the revolt of the secondary schools. From being the servants of the colleges, they became in effect masters, dictating largely in their turn what the colleges should accept. The other manifestation is represented by the embattled professions. The second answer to the question as to who shall determine the method and substance of university education is virtually this: All interested parties except the university. The answer has not been completely accepted. The American Medical Association initiated the movement to take professional education away from the educators. Lest you think me unfriendly or unappreciative of the extraordinary benefits that have resulted from your twenty years of activity in the educational field, let me say at once that I regard the advance in medical education as the premier achievement of America in the domain of higher training. You furnished the spur that made the achievement possible.

The Association, through its Council on Medical Education and Hospitals, has used for the improvement of medical education four conspicuous devices. The first of these is the definition of a minimum standard for an acceptable medical school. The second device is the classification of medical schools on the basis of their conformity to this standard. The third device is the effort to secure state laws or regulations which specify definite amounts of training in reputable institutions as the prerequisite for licensure. The fourth device is the definition of premedical education and the approval of colleges of arts and sciences qualified to give it. What this movement means for the universities of the country is patent. Unless the universities speedily organize for resistance, they will be forced to surrender to outside bodies entire jurisdiction over what has come to be the largest and most important portion of university training. And all this is happening in a period when every university is awake as never before in history to the importance of pedagogical reforms. Unless I am deceived, you are now ready to accept the help of the universities in correcting these defects. And help is apparently forthcoming. The most promising undertaking in the whole field of professional education is the study of medical education which has just been launched by the joint action of the universities and certain education foundations. Pending the outcome of this investigation, I have but two suggestions to offer. One is that you consider abandoning the prescription of the premedical curriculum. The premedical curriculum is neither general education nor professional education. My second suggestion is that in whatever new standardizing and classifying activities you may undertake, you consider the possibility of giving the principal weight to an estimate of the competence and righteousness of an institution. Medical schools which are genuinely class A schools ought to be trusted. In our whole standardizing procedure we have arrived at the point at which quantitative measures can be almost entirely dispensed with.

Dr. Augustus Downing, Albany, N. Y.: When this council of American medical education began its work some seventeen years ago, because of the condition of so many of the medical schools, it did seem necessary to fix a minimum. Then came the discussion of premedical requirements. The medical men, deans of medical schools and others, agreed that three sciences, physics, chemistry and biology, are fundamental, at least a preliminary knowledge of them, to the right study of medicine. As the years went by, we realized that the medical schools were doing their work conscientiously, but were hampered by requiring that anatomy must have so many hours, physiology so many hours, and pharmacology so many hours. I think we have come to a time when the deans and the faculties in the several professional schools should determine the course of study. We took out of our law the provision that nobody should be appointed to a medical board if he was connected in any way with the medical school. We are admitting that in a professional school you throttle progress if you do not give an opportunity for experimentation along various lines. We are experimenting in both medicine and dentistry.

Dr. K. P. B. Bonner, Raleigh, N. C.: Taking the boards of the country as a whole, I don't think they would impose any obstacle in the way of development of a model or practical educational curriculum. Therefore, regulatory obstacles might easily be removed. However, statutory obstacles do offer rather a serious hindrance in the way of development of education. Only eleven out of the total number of states prescribe four courses of instruction in separate calendar years. In prescribing forty months or more as the period of time that shall elapse from the beginning of the course, only two states prescribe that by statutory requirement. Sixteen states prescribe that no member of a medical faculty, or one having connection with the medical school, shall be a member of the board. In connection with the requirement regarding preliminary education, only five states lay down a rule requiring two years of work in a standard college, and, at the same time, do not prescribe provisions for its actual requirement; whereas there are only two states in the union which prescribe in detail the medical curriculum outlined in the five points. So it would appear that the differences which exist, or rather the hindrances and obstacles that exist between the boards and the university authorities, might be adjusted.

Dr. Walter L. Bierring, Des Moines, Iowa: The state boards and the federation standardize medical schools to a certain extent, but not in the complete manner in which it is carried out by the council of the American Medical Association. It has been a great hindrance to medical education for state boards or statutory requirements definitely to determine the curriculum, and particularly the number of hours. Frequently large percentages of mortality have occurred in the state board examinations, which, as a rule, are not very rigid. So there is still some fault in the matter of instruction or proper training for practicing physicians. In the general medical council of Great Britain, which has in its membership the deans of the medical schools, representatives from the British Medical Association, from the profession at large and also from the different examining bodies, they have a very representative and comprehensive body which concerns itself not only with courses of study but also with examination methods. Through personal inspection it is in complete touch at all times with the progress of medical education and the proper qualifications for practice. The same thing is being brought about by such joint discussions as this, by the endeavor of the federation to give this intensive study, by this new commission on medical education, by special examining boards like the National Board of Medical Examiners. Out of this will come more flexibility, more agreement, and a general concord of policy.

Dr. Charles Sumner Jones, Buffalo: In Buffalo we have been trying for the last few years to lessen the number of hours given during the four-year course. We think we see our way clear to reduce the number of hours to something like 4,000.

Dr. Frederick C. Waite, Cleveland, Ohio: I am chairman of a committee which reported the curriculum for the Association of American Medical Colleges some fifteen years ago. Every member of the committee felt at that time that it was only temporary. About 1917, every one, I believe, was ready to tackle that curriculum and change it. Conditions came about that postponed it. At that time, most of the schools were not educational institutions. They were vocational schools only, affiliated with the university. The state boards do not have enough chance to have contact with the applicant to determine proficiency. They can only determine information. I think that if we can clearly distinguish the two things we want, one information and the other proficiency, and get them separated in our minds, we can clear this up. The ability to think consecutively is of vast importance, and what we want now is not that a man should know this and that fact about anatomy and physiology, but that he should be able to think physiologically, anatomically and pathologically.

Dr. Augustus Downing, Albany, N. Y.: New York examines, in round numbers, 1,100 men a year for the practice of medicine. We are trying to work out a scheme by which these 1,100 men shall have a practical examination in diagnosis. I think Dr. Waite is right when he says that what we want is proficient men as well as men well informed. We are trying to work it out in our state so that the men who come in shall show they are at least proficient in diagnosis.

Dr. A. T. McCormack, Louisville, Ky.: In Kentucky, we determined to revise our regulations, and we have adopted a list of the reputable medical colleges of the country. We give them entire freedom as to what they do as long as they are on that list, and we recognize all their graduates.

Dr. E. P. Lyon, Minneapolis: I don't think those restrictions on experimentation are anywhere near as serious as they have been made out. If you have any real plan you want to try you will find you can try it. We have the quarter system and we find we can let a student use any quarter of the school year and make it a legal year without any trouble with the state boards. Then we have h[illegible] curriculum arranged for six years, so that one gro students can graduate in December, after thirty-nine months' registration in the medical school. We have no trouble in licensing those students. If any of them want to go to states which require forty or forty-two months, they have to use their M.D. degree after their intern year instead of the M.B. degree after the thirty-nine months. We tried the student internship for a period of four or five years. Under this, we divided the course into three parts of two quarters each instead of two years of three quarters each. If we didn't meet the class hour requirements in medicine or surgery, we couldn't meet the requirement in some states. We assumed that we had the right to credit the student intern with so many hours of medicine, so many hours of surgery, and so forth, and that the total would be the required number of hours. Two years ago we put into our bulletin an arrangement for an honor course, as we called it; that is, we selected students who might be relieved very largely from the required routine of the curriculum. They chose a department in which they wished to do their major work and went forward under the advice of this department. The only restriction in regard to the other departments was that they should fulfil a minimum of practical work described by that department and pass its examination.

Dr. T. J. Crow, Dallas, Texas: Some years ago, the student body of the University of Texas sought through the legislature to be exempt from a state board examination. They said they were graduates of a state institution and, therefore, should be exempt. That of itself appears to me sufficient reason for stating that the members of an examining board should not be members of a college faculty. I believe that the best statutory requirement for medical colleges is the preamble which reads as follows: "Such colleges shall be considered reputable, within the meaning of this law, whose entrance requirements and course of instruction average as high as those of the better class of medical schools of the United States."

Ernest H. Lindley, Ph.D., Lawrence, Kan.: It is comforting to certain members of boards to hear that there should be represented on those boards members of the faculties of the different schools. I believe, as a matter of practice, it is bad. It is a very alluring thing for an institution to take part in the government. It carries with it the apparance of power, but it really means paralysis. The university standing off as an advisory element contributes in the long run, I think, very much more to the social need.

Dr. Eldridge M. Shanklin, Hammond, Ind.: The man on the state medical board is rather set apart when he comes in contact with the group of men in the medical school, and particularly is that true if he meets a group of senior students. When the professors of educational institutions go gunning there is an open season on members of the medical board. My suggestion to you gentlemen who are connected with the medical schools is that you have some talkative member of your state board address your senior class about two or three months prior to the examination on just what the state board is, why it is, and what they may expect of the state board in the next examination.

(To be continued)

THE DALLAS SESSION

Golfers Rally for Trip to Southland Courses

The Golfers' Special provided for physicians attending the San Francisco Session in 1923 struck a most responsive chord. It will no doubt be pleasing news to all those with the golfing urge to learn that a similar train is being provided for the journey to Dallas. This train will leave Chicago, Sunday, April 11, and will provide six days of golf at famous Southern clubs. The general plan is to travel by night and have the days free for golfing and sight-seeing. Wives and children of physicians are welcomed on this trip, and special entertainment in the way of automobile drives, sight-seeing journeys, surf bathing and oyster roasts will be provided. The train is run under the auspices of the Southern Pacific. For details, write to Dr. F. C. Warnshuis, Grand Rapids, Mich.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Dr. Wilbur's Anniversary.—The Board of Trustees of Stanford University gave a dinner at the Pacific Union Club, San Francisco, January 22, to celebrate the tenth anniversary of Dr. Ray Lyman Wilbur's tenure of office as president of the university; Dr. Wilbur came to that office from his position as dean of the medical school of Stanford University; he is the third president, succeeding Dr. David Starr Jordan and the late Dr. John Casper Banner, and is the first president who graduated from the university. Dr. Wilbur was also recently president of the American Medical Association.

Miscellaneous Items.—The Orange County Health Department, which was the first full-time county unit to be organized in California with support from the International Health Board and the state board of health, began operating, January 1, on its own annual budget appropriated by the county board of supervisors; the budget for this year is $31,000.——Dr. Theodore Snypp, Auburn, has been appointed health officer of Placer County, to succeed Dr. John L. Fanning.——The first series of lectures of the San Jose Hospital Association was delivered by Dr. William C. MacCarty, Rochester, Minn., February 9-12, on (1) The Cancer Cell and Nature's Defensive Mechanism; (2) Gastric Ulcer and Cancer of the Stomach; (3) Bone Tumors; (4) Biologic Conception and Classification of Neoplasms; (5) Diseases of the Gallbladder.

FLORIDA

Smallpox Outbreaks.—There were 517 cases of smallpox in the state of Florida reported between Dec. 1, 1925, and Feb. 6, 1926, and more than 150,000 persons vaccinated. The state health officer says in the *Journal of the Florida Medical Association* that smallpox appeared in all parts of the state; he requests the cooperation of every physician in the state to preach vaccination and to vaccinate. Vaccine virus can be obtained from the nearest state laboratory or from the main distributing laboratory at Jacksonville.

Personal.—Dr. Ernest C. Levy, health officer of Tampa, has appointed Dr. William F. Clark and C. W. Eddy, D.V.M., as medical inspector and chief dairy inspector, respectively.——Dr. Bert W. Caldwell, formerly superintendent, University of Iowa Hospital, Iowa City, has been appointed superintendent of the Gordon Keller Memorial Hospital, Tampa.——Dr. Walton C. Touchton has been appointed health officer of Avon Park.——Dr. William A. Backenstoe, who has spent seventeen years in Africa as a medical missionary, is spending the winter at St. Petersburg.——Dr. John W. Mitchell has been appointed health officer of Sebring.

ILLINOIS

Society News.—The Alton Medical Society has decided to assume responsibility for conducting the crippled children's clinic at St. Joseph's Hospital in that city, and to take over the work done heretofore under the auspices of the Illinois Crippled Children's Society. The clinic will be held weekly, but the local physicians will render assistance whenever necessary at any time.

Medical Liberty League Scout Arrested.—A woman from Chicago representing the American Medical Liberty League was arrested in Champaign, February 16, it is reported, and fined $25 for posting antivaccination posters about the town, and for distributing such things without a permit. The posters are said to have advised persons to refuse to be vaccinated against smallpox and to request them to send stamps to the American Medical Liberty League, Inc., Chicago, for "literature." There were several cases of smallpox, recently, in the city of Champaign, some of them students of the University of Illinois.

Chicago

Personal.—Dr. Martha Tracy, dean, Women's Medical College of Pennsylvania, Philadelphia, was the guest of the Chicago Council of Medical Women, February 10.——Dr. Patrick J. H. Farrell is a candidate for nomination for Congress in the ninth district. For many years, Dr. Farrell has been closely associated with organized medicine and with the medical units of the National Guard; he served in the Spanish-American War, the Philippine insurrection and the World War.

Society News.—At the next meeting of the Institute of Medicine, Chicago, March 26, at the City Club, the Chicago Surgical Society will be the guest of the institute; the program will comprise the second Lewis Linn McArthur lecture of the Billings Foundation, which will be delivered by Dr. Evarts A. Graham, professor of surgery, Washington University Medical School, St. Louis, on "New Developments in Our Knowledge of the Gallbladder."——Dr. Joseph A. Pettit, Portland, a trustee of the American Medical Association, addressed the Physicians' Fellowship Club, February 19, on "Things Medical in the State of Oregon."——Dr. Maximilian Stern, New York, addressed the Chicago Medical Society, February 24, on "Minor Surgery of the Prostate Gland—New Apparatus and Instruments for Its Extended Application," and Dr. John R. Caulk, St. Louis, on "The Fallacious Orifice—Value of the Cautery Punch Operation." There was a dinner in honor of the speakers at the Hamilton Club, preceding the meeting, and a urologic clinic at the Cook County Hospital in the afternoon.——Dr. Joseph A. Capps addressed the Chicago Council of Medical Women, February 23, at the Women's City Club on "Bacterial Endocarditis."——Dr. Mather Pfeiffenberger, Alton, president-elect, Illinois Medical Society, addressed the Chicago Medical Society, March 3, on "An Inventory," and was guest of honor at a dinner at the society's office preceding the meeting; the meeting, March 10, will be given over to a symposium on exophthalmic goiter in which Dr. George W. Crile, Cleveland, will discuss "Surgical Treatment."——The Chicago Surgical Society met at the University Club, March 5, and at Mercy Hospital for the clinical meeting; among others, Dr. John F. Golden gave a lantern demonstration of "A Study in Bone Transplants."——The March 11 meeting of the Chicago Roentgen Society will be at the Virginia Hotel; the program will be a symposium on brain tumor.

INDIANA

Personal.—Dr. St. Clair Darden, South Bend, was elected president of the Indiana Tuberculosis Association at the fifteenth annual conference in Muncie, February 13.——Dr. Charles F. Bayer has been appointed regional medical officer for the U. S. Veterans' Bureau for the state of Indiana, to succeed Dr. Chester A. Stayton, resigned.——Dr. Paul R. Tindall has been appointed county health officer at Shelbyville.

Reinstatement Refused.—Judge Chamberlin of the circuit court, Indianapolis, has refused the plea of Dr. Winfield S. Rowley of that city to order the state board of medical registration and examination to reinstate his license to practice in Indiana, it is reported. Dr. Rowley's license was revoked by the board, it is said, for having lent his license to a layman, who engaged in the practice of medicine.

Miscellaneous Items.—The Ball brothers of Muncie have donated $500,000 to the Riley Memorial Hospital for Crippled Children, Indianapolis, provided the hospital raises $100,000 by June 30.——The American Proctologic Society will hold its annual meeting in Indianapolis, April 16-17; physicians are invited to attend the meetings.——The Indianapolis Medical Society gave a dinner at the Athenaeum, January 26, in honor of Dr. Augustus G. Pohlman, professor of anatomy and director of the department, St. Louis University School of Medicine.——Dr. William B. Hartsock, Indianapolis, whose license was revoked by the state board following his plea of guilty to violation of the Harrison Narcotic Law for which he served a term in prison, has been reinstated.

MARYLAND

Hospital News.—The Lions Club recently dedicated a ward for crippled children, equipped at a cost of $2,400, at the Franklin Square Hospital; the ward has twenty beds.——The Union Memorial Hospital, Baltimore, will conduct a campaign for $300,000 next October with the assistance of a committee of fifteen, the chairman of which is Dr. John M. T. Finney. The funds will be used to furnish the Johnston Memorial Children's Hospital and Nurses' Home, to pay off a debt on the main building of the hospital, and for general improvements.

Personal. — Dr. John Girdwood, Baltimore, has been appointed medical examiner for the Baltimore City Service Commission; he has been in the U. S. government service for several years, and is the first medical examiner to be appointed in connection with the administration of the local merit system.——Dr. Edward R. Baldwin, director, Edward L. Trudeau Foundation, Saranac Lake, N. Y., gave one of the De Lamar lectures on "The Absolute and Relative Value of Laboratory Procedures in the Diagnosis of Tuberculosis" before the School of Hygiene and Public Health, Johns Hopkins University, February 1.——At the annual meeting of the Maryland State Nurses' Association, January 27, Baltimore, Drs. William H. F. Warthen, head of child welfare work, and Valcoulon L. Ellicott, in charge of vital statistics in the Baltimore City Health Department, gave addresses.——The president of the American Psychopathological Association having resigned, Dr. Ross M. Chapman, Towson, is now the acting president of the association.——Professor Knud Faber of the University of Copenhagen lectured under the auspices of the Herter Lecture Fund, February 18, at the Johns Hopkins Hospital, Baltimore, on "Disturbances of Blood Sugar Regulation."

MASSACHUSETTS

New Society Chartered.—The Malden Medical Association received a charter from the commonwealth of Massachusetts, January 23. The officers are Dr. Charles E. Donlan, president; Dr. Harry J. Weintraub, vice president; Dr. Ray H. Shattuck, secretary, and Dr. Edward G. De Wolf, treasurer.

Hospital News.—The trustees of the Newton Hospital, Newton, have decided to launch a campaign to raise $1,000,000 for additions to the hospital, which last year cared for 3,551 patients, and in which more than half of the city's children have been born. The hospital now has 113 beds, and there has been no expansion of its facilities for twenty years.——The new $300,000 maternity building for the Lynn Hospital, Lynn, will be ready for occupancy about May 1. It will be fireproof, five stories high, and will replace, in the hospital group, three old wooden buildings.

Registrations Suspended.—According to the *Boston Medical and Surgical Journal*, the board of registration in medicine at a meeting, January 21, took the following action:

Dr. Alfred W. Gwinnell, 1227 Commonwealth Avenue Boston.—Registration suspended for three months from Jan. 21, 1926, for violation of the Federal Prohibition Act.

Dr. Ambrose C. Saunders, 1 Hancock Street, Somerville.—Previous suspension reconsidered. Voted to suspend registration three months from Dec. 10, 1925, instead of one year from Dec. 10, 1925.

Dr. William N. Noyes, 10 Brown Street, Salem.—Registration suspended for three months from Jan. 21, 1926, for violation of the Federal Prohibition Act.

Mortality in Boston.—The total number of deaths in Boston in 1925 was 657 more than in 1924. The death rate was 14.8 per thousand of population, as compared with 14.07 for the previous year; about 17 per cent of the deaths last year were in nonresidents. The number of infant deaths was larger than in 1924; the number of births was 1,326 fewer, giving a birth rate of 23.56, the lowest ever recorded in Boston. The number of persons more than 60 years of age who died in 1925 was larger than for previous years. There was a decrease in the deaths from diphtheria, and an increase in the deaths from typhoid, cerebral hemorrhage, alcoholism, diabetes mellitus and premature birth.

MICHIGAN

Chiropractor Jailed.—J. E. Bacheller, a chiropractor at St. Joseph, was remanded to the county jail, January 22, in default of $300 bail, it is reported. Bacheller was arrested by a state health inspector on a charge of practicing medicine without a license.

Medicolegal Report.—At the January meeting of the council of the Michigan State Medical Society, Ann Arbor, the Medicolegal committee reported that there had been thirty-one "trouble cases" among the members of the state society during 1925, which was less than in any of the three previous years. Eleven suits involving members were tried in 1925, and all of them were won by the committee; in one case, settlement was made by the insurance company, while the trial was in progress. The committee expended in 1925 in attorneys' fees and court expenses $3,350.70, and has a cash balance of $6,309.34. The committee is obligated by a referendum vote of the council to defend in 1926 a libel case involving two members.

Unusual Measles Epidemic.—There were 4,355 cases of measles reported in Detroit in January, as compared with twenty-two in January, 1925; 26 per cent of these were diagnosed by physicians of the city health department, as a result of extra physicians being placed in the schools to look for early symptoms of measles after the holidays. The death rate for measles in January was 1.12 per hundred cases, or a little more than half of the average death rate in Detroit. The city health commissioner believes that the unusually low mortality in this epidemic was in part due to intensive "measles work" by the department in attempting to detect the cases early, and advising generally that medical attention was necessary for the proper care of the victims.

MISSOURI

Physician Honored.—About 200 residents of Shelbina attended a banquet, January 25, in honor of Dr. Jacob D. Smith, whose seventy-seventh birthday was celebrated. Dr. Smith has practiced in Shelbina for fifty-three years.

Warrants for Unlicensed Optometrists.—Beginning a campaign to rid St. Louis of unlicensed optometrists, warrants were issued, January 24, for the arrest of four, charging them with practicing without a license. The evidence was gathered by the board of optometry and the Better Business Bureau. The four were, it is reported, Carl A. Fuldner, 306 North Grand Boulevard; Otto Bachmann, 209 North Ninth Street; S. Bindler, 1012 Franklin Avenue, and William T. Gallagher, Frisco Building.

Personal.—Dr. William N. Cuthbertson, Liberty, has been appointed county health officer for a term of three years. Dr. Cuthbertson is also the county physician.——Dr. William L. Gist, Kansas City, has been appointed physician to the fire department, succeeding the late Dr. Charles E. Wilson.——Dr. Otto B. Ilch has been reappointed deputy state commissioner of health of St. Charles County for a term of three years; Dr. William W. Vandivert, Bethany, has been reappointed deputy state commissioner of health for Harrison County, and Dr. Paul C. Davis, Moberly for Randolph County.——Dr. Paul C. Morton, formerly of St. Joseph, has been appointed an instructor at Columbia University, New York.

Society News.—A dinner in honor of Col. William A. Wickline, Medical Corps, U. S. Army, was given by Lloyd R. Boutwell, post no. 136 of the American Legion, February 17; Colonel Wickline was stationed at Jefferson Barracks, previous to the World War and during the war was on duty at the St. Louis Medical Supply Depot.——The executive council of the Jackson County Medical Society, Kansas City, adopted a resolution, February 16, disapproving the system of employing medical witnesses in a criminal trial to testify concerning the sanity of the defendant; it was recommended that the law be amended so that the defendant in such cases, when insanity is offered as a defense, be examined by a permanent commission of three alienists to be paid by the state, and to report to the trial judge in the presence of the attorneys for both sides, and to be questioned only by the trial judge, if the jury is present when the report is made.

NEW YORK

Personal.—Dr. Christian E. Petersen, Broad Channel, has been appointed full-time superintendent of the Jefferson County Tuberculosis Sanatorium.——Dr. Matthias Nicoll, Jr., state commissioner of health, addressed the Harvard School of Public Health, Boston, January 14, on health administration.

County Psychopathic Hospital.—The board of supervisors of Westchester County has approved the building of a new psychopathic hospital; the authorization followed a survey of the facilities of the county for the temporary treatment of mental disorders conducted last year by the National Committee for Mental Hygiene and the state mental hygiene committee.

Society News.—The Syracuse Academy of Medicine gave a dinner, February 2, in honor of Dr. Robert A. Hatcher, professor of pharmacology, Cornell University Medical College, New York, preceding an address by Dr. Hatcher on "The Relation of Pharmacology to Rational Therapeutics."——The postgraduate medical clinics of the Nassau County Medical Society will be continued through the month of May; those scheduled for February included two on pediatrics and two on the skin; the clinics have been well attended.——The Saranac Lake Medical Society recently went on record as favoring the local diphtheria prevention campaign in the schools. A statement to that effect issued by the society has been useful in stilling the anxious fears of the parents.

New York City

Opera to Aid Physicians' Home.—Members of the Metropolitan Opera Company will give a benefit performance at the Metropolitan Opera House, April 11, to assist in raising $125,000 to purchase "Downsbury Manor," an estate at Ridgefield, Conn., for a home for incapacitated and aged physicians; the program for the occasion will be an opera; there will be also short addresses, and among those invited to speak are Charles Evans Hughes, formerly secretary of state; Governor Smith; Mayor James J. Walker, and Dr. Wendell C. Phillips, President-Elect of the American Medical Association.

Changes in Academy By-Laws.—The New York Academy of Medicine has changed its constitution and by-laws so that they now provide that a graduate of a duly qualified medical school who submits proper evidence that he devotes full time to teaching or scientific research may have his admission fee waived and pay annual dues of $5; another revision provides that regularly commissioned medical officers of the U. S. Army, Navy and Public Health Service may be elected to fellowship in the academy without paying an admission fee. The twelve special sections of the academy will now furnish abstracts of all papers read at their meetings for publication in the bulletin of the academy which, it is expected, will eventually become the Transactions of the New York Academy of Medicine.

Dr. Lambert Heads New School of Tropical Medicine.—It was announced, February 27, that Dr. Robert A. Lambert, New York, will sail for Porto Rico in March to assume charge of the school of tropical medicine which Columbia University is establishing there. Dr. Lambert recently returned from Brazil, where, since 1921, he had been director of the *Pathological Institute at São Paulo*. Columbia aims to establish ultimately a great Pan-American medical center, and, with the University of Porto Rico, to cooperate with both North and South America in the conquest of disease. The chancellor of the University of Porto Rico is now in New York conferring with Columbia's officials about organization plans; with Dr. Lambert's arrival in Porto Rico, the enterprise will take definite shape.

Society News.—Dr. Nellis B. Foster addressed the Medical Society of the County of New York, February 24, on "Clinical Differences Between True and False Uremia."——The Yorkville Medical Society held a symposium, February 15, on "Physiotherapy by the General Practitioner."——Dr. Francis M. Pottenger, Monrovia, Calif., addressed the Association of Italian Physicians in America, February 18, at the New York Academy of Medicine on "Some Important Factors Influencing the Curability of Tuberculosis."——The New York Academy of Medicine held a symposium, February 18, at its stated meeting, on "The Significance of Disturbances of Functions of the Bladder."——Alfred N. Richards, Ph.D., professor of pharmacology, University of Pennsylvania School of Medicine, Philadelphia, gave a series of four lectures, beginning February 11, under the auspices of the Herter Foundation at the University and Bellevue Hospital Medical College on "The Physiology and Pharmacology of the Kidney."——The presidents of the five county medical societies which represent the organized medical profession of greater New York and a member of their committees interested in public health met, January 9, to discuss the various problems that will come before them during 1926.——Dr. Harry W. Mayes addressed the Medical Society of the County of Kings, February 17, on "Mercurochrome in Obstetrics: A Report on Morbidity in More Than Two Thousand Cases."——Dr. William E. Caldwell, associate professor of gynecology and obstetrics, Columbia University College of Physicians and Surgeons, among others, gave a lantern demonstration at the stated meeting of the New York Academy of Medicine, March 4, on "Birth Injuries."

Medical Court Cases.—Through the activity of Jacob H. Banton, district attorney of the county of New York, the following medical cases were recently disposed of in the court of special sessions: (1) Pietro Stella, 309 East Fourteenth Street, was convicted of practicing medicine without a license. The evidence developed the fact that the defendant is the nephew of Dr. Giuseppe Stella of 308 East Fourteenth Street, and that the defendant was taking care of Dr. Stella's practice while the latter was in Europe in July, 1925. The complainant, Mrs. Rosina Loforte, testified that on July 6, 1925, she visited the office of Dr. Stella and there met the defendant, who treated her left eye; subsequently the eye was removed at one of the city hospitals. Stella said he would charge Mrs. Loforte $350 for treating her eye and received $50 on account. (2) Barbara C. Horworth, 600 West One Hundred and Sixty-Third Street, a licensed masseuse, was convicted of practicing medicine without a license. The testimony of two policewomen showed that the defendant held herself out as a doctor, saying that she had cured many deaf and dumb persons and many bedridden cripples. She also stated to the policewomen that she had cured the grandson of Jacob H. Schiff of a serious ailment. The defendant made a diagnosis of the policewoman's case and treated her by rubbing and applying a liquid to her back. The defendant was sentenced, February 15, after an investigation. (3) Antony J. Colagione, prescription clerk in a drugstore at 585 Lenox Avenue, was convicted and fined $100. The defendant told a policewoman that he was a doctor, gave her a prescription for which he charged $1, and sold her medicines for which he charged $2.50. (4) Benjamin H. Steinberg, prescription clerk in a drugstore at 2564 Eighth Avenue, was convicted and fined $100. The testimony of a policewoman showed that the defendant said he was a doctor and gave her a prescription for which he charged $1, and medicines for which he charged 75 cents. The bottle bore the name of a fictitious doctor.

NORTH CAROLINA

Dan Harris Arrested Again.—Dan Harris, a self-styled "painless cancer specialist," was arrested in Raleigh, February 18, it is reported, charged with practicing medicine without a license, following the death of a woman in Greensboro whom he had treated for cancer. In the last ten years, Harris has been indicted on four previous occasions, and convicted and released by the court with a nominal fine three times. A later report of Harris' last arrest has been received to the effect that he was fined $100, which he promptly paid.

Society News.—The Mecklenburg County Medical Society, Charlotte, has established a physicians' exchange for the mutual convenience of its members and the public.——Drs. Guy H. Sumrell and Mark T. Frizzelle recently entertained the Pitt County Medical Society at dinner at Ayden.——The Wayne County Medical Society recently held a memorial service for the late Dr. Wooster H House, Goldsboro.——Dr. Seavy Highsmith was chairman of the committee of the Cumberland County Medical Society, which made the arrangements to entertain the twenty-eighth annual meeting of the Tri-State Medical Association between North Carolina-South Carolina and Virginia in Fayetteville, February 17-18.——The medical staff of U. S. Veterans' Bureau Hospital, no. 60, Oteen, entertained the members of the Buncombe County Medical Society at the hospital, January 18. There was a clinic, refreshments and a social hour.

PENNSYLVANIA

Mental Clinics.—The Bureau of Mental Health, Pennsylvania Department of Welfare announces the appointment of Dr. Thomas M. Barrett, Dixmont Hospital, Dixmont, Pa., and Dr. Gordon F. Willey, Pennsylvania Hospital, Philadelphia, as part-time field psychiatrists. Their duties will be largely as consultants in connection with mental clinics. There are now forty-six clinics under the auspices of the bureau of mental health, and it is expected that such part-time service will make it possible to establish still more.

Society News.—The Pennsylvania Conference on Social Welfare held its eighteenth annual meeting in Pittsburgh, February 3-6; among the subjects discussed were "The County as a Unit of Organization for Social Work," "Interracial Relationships," "New Trends in Social Welfare" and "Adult Delinquency." In connection with the conference there were meetings also with the state conference of probation and parole, the state association of superintendents of institutions for children and other organizations.——Dr. Harvey F. Smith, Harrisburg, addressed the Dauphin County Medical Society, March 2, on the surgical side of pyloric stenosis; Dr. Arthur L. Page discussed the medical side of pyloric stenosis.——The fifth Bedford Lecture will be delivered in April in Pittsburgh by Dr. Beverley R. Tucker, Richmond, Va., on "The Contribution of the Doctor to Literature." Advanced reservations may be made by writing to Mrs. Risacher, 7036 Jenkins Arcade Building, Pittsburgh; the time and place will be announced later.

Philadelphia

Hospital News.—The board of managers and the staff of the Women's Hospital opened the new roentgen-ray department of the hospital with appropriate ceremonies, February 24.

Personal.—Dr. Alejandro Ceballos, an associate professor in the Medical School of the University of Buenos Aires, has been visiting medical schools and hospitals in Philadelphia.——The district attorney has appointed Attorney James W. Tracy to cooperate with the state board of medical education in the apprehension of illegal practitioners of medicine.——Dr. Jacob Solis-Cohen celebrated his eighty-eighth birthday, February 28.

Society News.—The Philadelphia County Medical Society, February 24, conducted a symposium on "Newer Therapeutic Remedies"; Dr. Harry C. Fish discussed "Pregl's Iodine Solution in the Treatment of Arthritis"; Dr. Meyer Solis-Cohen, "Causes of Failure of Specific Vaccine Therapy and Their Correction"; Dr. Harry Lowenburg, "Mercurochrome in the Treatment of Infections in Children"; George W. Raiziss, "The Newer Developments in Chemotherapy," and Dr. John A. McGlinn, "Nonspecific Proteins in the Treatment of Pelvic Inflammatory Diseases."

TEXAS

Health at Houston.—Reports to the Department of Commerce from sixty-eight cities with a total population of twenty-nine million, for the week ending February 20, indicate that the highest mortality rate (33.8) was for Houston and that the mortality rate for the group was 16.4. The mortality rate for Houston for the corresponding week last year was 19.3, and for the group, 14.5.

WASHINGTON

Society News.—The annual dinner of the King County Medical Society was held March 1 at the Olympic Hotel, Seattle; 500 tickets have been issued for the occasion.——Dr. Paul B. Magnuson, Chicago, will be the guest of the Seattle Orthopedic Society at the annual clinic and dinner, March 13-15.

Hospital News.—The governor has signed an "enabling act" which will make it possible for two counties or a city and a county to erect hospitals conjointly.——The Firlands Sanatorium, near Seattle, has opened a new $60,000 building with a capacity of sixty beds for the treatment of tuberculous children; this is a city institution.

Personal.—Dr. Robert N. Hamblen has been elected president of the Spokane Medical Society; Dr. Mitchell Langworthy, vice president; Dr. Robert L. Rotchford, secretary.——Dr. Harriet J. Clark, medical missionary, recently spent a furlough in Seattle, where formerly she practiced for many years; Dr. Clark has returned to Bombay.——Dr. Harry V. Wurdemann, Seattle, a lieutenant colonel in the medical officers' reserve corps, has gone to Washington, D. C., for a two weeks' tour of duty with the general staff.——Dr. Charles F. Eikenbary, Spokane, left that city, March 1, it is reported, for Seattle to take charge of the Children's Orthopedic Hospital.

WISCONSIN

Examinations in the Basic Sciences.—The Wisconsin State Board of Examiners in the Basic Sciences will conduct examinations at the Loraine Hotel, Madison, March 12-13 and September 17-18, and at the Hotel Pfister, Milwaukee, May 28-29 and December 17-18, in physiology, pathology and diagnosis, and human anatomy. Inquiries should be addressed to Michael F. Guyer, LL.D., University of Wisconsin, Madison (The Journal, June 27 and and Aug. 1, 1925).

HAWAII

Record Health for Troops.—The Surgeon General notes in his weekly review of statistics that the health of the soldiers in the Hawaiian department during the calendar year 1925 was exceptionally good, and better than the record for the preceding year, which was satisfactory. The admission rates for disease, the death rate and the noneffective rate from all causes were lower than in 1923 or 1924. The rate of incidence for venereal disease established a new low record. There was only one case of malaria fever reported, and this, it is said, was probably contracted before the soldier arrived in Hawaii, as was true of the fourteen cases of malaria reported in the Hawaiian department in 1924.

GENERAL

Health Institute Postponed.—According to the Connecticut State Department of Health, the New England Health Institute, which was to have been held at Concord, N. H., May 24-28, has been postponed, the tentative date now mentioned being September 27-October 1.

Accidents in Metal Mines.—According to the Department of Commerce, accidents at mines producing metals and nonmetallic minerals, except fuel, resulted in 418 deaths and 33,118 nonfatal accidents in 1924. Of the total number of accidents in such mines, ten caused permanent total disability, 402 permanent partial disability, and 8,308 disability exceeding fourteen days. Aside from the disaster at the Milford mine in Minnesota in February, 1924, in which forty-one persons lost their lives as a result of a flood, the main causes of fatalities among underground workers were falling roof, explosives, haulage and falls of persons. There was an increase in the injury and death rates in 1924 over the previous year in underground and open pit operations, and a reduction in the rates for surface shops and yards.

The Darling Prize.—The council of the League of Nations has approved a resolution of the Health Committee of the league to perpetuate the memory of the late Dr. Samuel T. Darling, Baltimore, by establishing a prize to be awarded periodically and to be known as the Darling prize. It will be awarded by the Malaria Committee of the League of Nations to that scientist who has carried out some recent distinguished research work on a subject connected with malaria which comes within the general scope of the commission's investigations. The fund will be collected by private subscription and the interest will be expended on the prize. All contributions will be acknowledged and in due time information concerning the administration of the fund will be furnished each subscriber. Contributions should be sent to the Director of the Health Section, League of Nations, Geneva, Switzerland.

Society News.—Dr. Hans Zinsser, Harvard University Medical School, Boston, was elected president of the Society of American Bacteriologists at the recent annual meeting; Robert S. Breed, Ph.D., Agricultural Experiment Station, Geneva, N. Y., vice president, and James M. Sherman, Ph.D., Cornell University, Ithaca, N. Y., secretary-treasurer.——The annual meeting of the American Society for the Control of Cancer will be March 6 at 25 West Forty-Third Street, New York; five members of the board of directors will be elected, also the chairman, four vice chairmen, and other members of the advisory council; following the business meeting there will be a dinner conference of the advisory council.——At a meeting of the American Conference on Hospital Service, Chicago, February 17, Dr. Frank Billings, Chicago, was elected honorary president; Dr. Sigsmund S. Goldwater, New York, president; Dr. Ralph B. Seem, Chicago, and Mrs. Carl H. Davis, Milwaukee, vice presidents, and Dr. Harry E. Mock, Chicago, treasurer.

News of Epidemics.—Twenty-five students at Phillips Exeter Academy, Exeter, N. H., were reported, February 25, as restricted to the infirmary on account of an outbreak of scarlet fever, which has prevailed at the school for several weeks in mild form.——Among the communities in which outbreaks of smallpox have recently been reported are Roosevelt County, N. M., eleven cases; Gary, Ind., eight cases; Council Bluffs, Iowa, sixty-three cases reported, February 1-15; Alamo, Tenn., eight cases in and near the town; Greenville County, S. C., ten cases, and Scottsville, Ky., twelve cases.——The city health officer of Houston, Texas, is said to have conferred with the Harris County Medical Society, Houston, recently, about an epidemic of influenza in that city.——El Paso, Texas, was reported as having an influenza epidemic, February 5, which caused sixteen deaths in four days; sixty of the public school teachers were absent from duty largely as a result of the epidemic; also 913 of the pupils.——There were 11,801 cases of influenza reported to the state board of health of Mississippi during January; the epidemic continued to extend during February.——More than 1,000 persons in Sodus, N. Y., were said to have been ill with influenza, February 28; the population of Sodus is less than 2,000.

Aliens Admitted to Study Chiropractic.—Protests are being received from state medical boards by the department of labor at Washington against the practice of the bureau of immigration in approving certain schools of chiropractic, which action permits prospective students of those schools to enter the United States as nonquota immigrants. Among others, the Indiana State Board of Medical Registration and Examination protests to Secretary of Labor James J. Davis that the practice of the "healing art in the state of Indiana is a common privilege granted to any citizen that will comply with the law in relation to the practice of the art of healing." It is pointed out that chiropractic schools have not met "the Indiana schedule of minimum educational requirements," and cannot be approved by the Indiana licensing authorities without discriminating in favor of a low standard of education, and against the present established standard of Indiana. The Indiana board further protests the action of the bureau of immigration on the ground that "the teaching of chiropractic schools contravenes the established practice of the cure and prevention of disease, and is inimical to the stability of law and order in this state." This protest raises legal questions, which must be determined by the bureau of immigration; under the administration of Commissioner Husband, it was the practice of the bureau to permit alien students who contemplated a course of instruction in chiropractic to be admitted to the United States to attend such schools, provided the immigration bureau found that the chiropractic school was financially responsible. Commissioner Husband held that it was not the duty of the bureau of immigration to pass on the question of whether or not chiropractic is recognized as an adequate method for the cure and prevention of disease; this has also been the policy of the present commissioner of immigration, Harry E. Hull. It is apparent, in view of the Indiana protest, which is based on the Indiana statute, that the federal immigration authorities may be required to change the ruling which has permitted student immigrants to enter the United States to study at so-called chiropractic schools.

Bequests and Donations.—The following bequests and donations have been announced recently:

The Children's Orthopedic Hospital, Seattle, $5,000, by the will of the late Judge Thomas Burke, Seattle.

The Episcopal Hospital, Philadelphia, $10,000; the Homeopathic and Presbyterian hospitals, each $5,000, by the will of the late John G. Carruth.

Fifty thousand dollars each to the Montefiore Home, the Hebrew Orphan Asylum and the New York Guild for Jewish Blind, and $25,000 to the Home for Aged and Infirm Hebrews, by the will of the late Mrs. Hannah Heyman, New York.

Mount Sinai Hospital, New York, the United Hebrew Charities, the Hebrew Benevolent and Orphan Asylum, each $5,000; the Montefiore Home for Chronic Invalids, $2,000, and the Home for Aged and Infirm Hebrews, $1,000, by the will of the late Albert Lorsch.

The Montefiore Hospital, New York, $1,000, by the will of the late Supreme Court Justice, David Leventritt.

The New York Eye and Ear Infirmary, New York, $5,000, by the will of the late Dr. Dwight W. Hunter, as a memorial to his son.

The New York Skin and Cancer Hospital, $300,000, as a contingent bequest from the estate of the late Ralph Holdem.

St. Joseph's Home for the Blind, Jersey City, $1,000, by the will of the late Nellie Lynn, Philadelphia.

The Lenox Hospital, New York, $837,872, Manhattan Eye, Ear and Throat Hospital, $5,000; the Passavant Memorial Homes, $2,000; the New York Association for Improving the Condition of the Poor, $50,000, and Cornell University, $25,000, by the will of the late Gustav Ulbricht.

About $7,000 to the Women's and Children's Hospital, Chicago, the proceeds of a benefit concert given for the hospital, January 25.

The Union Memorial Hospital, $2,500 by the will of Mr. John S. Gittings. Baltimore

The Sharon Sanatorium, Sharon, Mass., and the Central New England Sanatorium and Tumor Colony, Rutland, Mass., $150,000, by the will of the late Mrs. Thomas O. Richardson.

The Home for Incurables, Philadelphia, the Blind Asylum and the Friends' Hospital, $32,000, by the will of the late Amanda J. Leslie.

The New York Hospital, New York, $50,000, the Lincoln Hospital and Home, and the Servants of Relief for Incurable Cancer, each $20,000; St. Mark's Hospital, $20,000, and the Home for Incurables, New York, $10,000, by the will of Ella A. Rogers.

The Memorial Home for the Blind, Worcester, and the Perkins Institution for the Blind, Watertown, Mass., each $5,000; the Home for Aged Women; the Home for Aged Men, Associated Charities, Worcester, Tuberculosis Relief Association, and the Worcester Society for District Nursing, each $2,000, by the will of the late David Hale Fanning of Worcester.

The Manhattan Eye, Ear and Throat Hospital, $5,000, and the residuary estate, on the death of her sister, estimated at more than $900,000, *to the Presbyterian* Hospital, New York, by the will of the late Margaret Elizabeth Griffith.

The New York Orthopedic Hospital, New York, $1,000, by the will of the late Mary L. Willard.

The Brooklyn Home for Consumptives, $1,000, by the will of the late Grace Newman.

The Massillon City Hospital, Massillon, Ohio, $30,000, by the will of the late Mary E. Russell

Hospital of St. Elizabeth of Hungary, New York, $6,000, the New York Society for the Relief of the Ruptured and Crippled; the Servants of Relief of Incurable Cancer; St. Vincent's Hospital; New York Ophthalmic Hospital; Manhattan Eye, Ear and Throat Hospital; New York Cancer Hospital; Metropolitan Throat Hospital; French Hospital; St. Joseph's Hospital, each $7,500, by the will of John McCaffery.

The New York Hospital, New York, $50,000; the Lincoln Hospital, New York, $25,000; the Servants for the Relief of Incurable Cancer, $25,000; St. Mark's Hospital, New York, $20,000; the Home for Incurables, New York, $10,000, by the will of the late Columbus B. Rogers, and that of his daughter, Ella, recently deceased.

The New York City Cancer Institute, $10,000, by the will of Mrs. *Annie Lendrock.*

The Southampton Hospital, $3,000, and the Greenport Hospital, $2,000, by the will of the late Mrs. Harriet J. Sayre, Southampton, L. I.

The Jewish Hospital, Association and Federation of Jewish Charities, Philadelphia, each $25,000, under the deed of trust created by the late Benjamin W. Fleisher.

Frederick Brown has donated $100,000 to the Jewish Hospital of Brooklyn.

By the will of Mr. Oliver C. Simont, recently probated, the Children's Hospital School and the Home of Incurables each received $2,000, and the Hospital for Consumptives, Towson, $1,000.

The Culver Union Hospital, Crawfordsville, Ind., $20,000, by the will of Mrs. Mary Culver, St. Louis.

The Coatesville Hospital, Coatesville, $5,000, *by the will of the late* Miss Charlesanna L. Huston, Germantown, Pa.

The will of the late Miss Elizabeth D. Barclay, whose estate amounted to about $200,000, contained bequests to endow beds in hospitals, and bequeathed a share of the residuary estate to the Philadelphia Orthopedic Hospital for the purchase of appliances and instruments for the care or comfort of deformed or crippled children.

St. John Guild's Seaside Hospital, New York, $2,500, and St. Bartholomew's Hospital, New York, $10,000, by the will of the late Mrs. Mary de Silver Lord.

The Babies Hospital, New York, and Columbia University, each $25,000, by the will of the late Dr. L. Emmett Holt.

LATIN AMERICA

Personal.—Prof. A. Rocha Faria was tendered an ovation on the day he completed fifty years of service in the Santa Casa at Rio de Janeiro; a tablet and portrait were unveiled, a gold medal was presented to him, a pension was provided for, and a prize was endowed in his name for the best work of an undergraduate.——The *Paris médical* states that Dr. Cranwell, Buenos Aires, has been elected a foreign Fellow of the French Société de chirurgie. Dr. Lamotte of Antwerp was elected at the same time, while Drs. Rio Branco, Brazil, M. Algovin, Peru, and Bessim Omer Pasha were appointed foreign correspondents.

FOREIGN

Spontaneous Cure of Cancer.—Dr. O. Strauss, Berlin, is appealing to all physicians to aid him in compiling and studying instances of the spontaneous cure of malignant disease; what factors might possibly have cooperated, and whether some other disease may not have simulated cancer. The work is being done under the auspices of the German Anticancer Society. His address is 19 Kesselstrasse, Berlin N4, Germany.

New Medical School in India.—The King Edward VII Memorial Hospital and the Seth Gordhandas Sunderdas Medical College at Bombay were opened by the governor with appropriate ceremonies, January 22. The medical school will accommodate 300 students and the hospital 304 patients, with provision for expansion to 400 without overcrowding. These institutions cost in the neighborhood of $3,000,000, which was contributed by the government, the municipality of Bombay, and many individual benefactors; they are of the most modern construction and design, fully equipped and ably staffed; their completion is a great step forward in medical education and treatment of the sick in India.

Personal.—Dr. Edward Halford Ross, London, a member of the council of the Industrial Welfare Society, has gone to South Africa for a year to observe miners' phthisis on the Rand; he will also go to India to promote measures against malaria and mosquitoes in the tea-growing districts of Assam. Dr. Ross was formerly health officer of the Suez Canal.——Dr. R. Kienböck, professor of medical radiology, Vienna, has been elected corresponding member of the Radiological Society of North America.——Dr. Berze has been placed in charge of the newly organized consulting station at Vienna for nervous and mental diseases.——The Budapest Journal *Therapia* has issued a special souvenir volume in honor of the internist Prof. A. von Korányi, to which forty-eight scientists in different countries have contributed.——Dr. Lutrario, Rome, is the representative of Italy on the Health Board of the League of Nations, and on a recent trip home he was presented with a gold medal by the officials of the public health service.——Dr. Hamel, Berlin, recently inaugurated the radio broadcasting service for postgraduate courses. Twenty minute talks on ileus and the latest discoveries in medicine were broadcast by Professors Körte and Adam. The series is to be continued on the second and fourth Fridays, from 7:30 to 8:15, wave length 1,300.——Prof. A. A. Friedländer, Frankfurt, was in charge of the recent two day medical postgraduate course at Berlin on quackery. It was sponsored by the German Antiquackery Society, which held its annual meeting here.——The *Lancet* states that Dr. C. G. Seligman, professor of ethnology at the university of London, has been awarded the Rivers memorial medal for 1925, for anthropologic work done in the field (New Guinea, Ceylon and the Sudan).——The Italian Dermatologic Society has elected to honorary membership Professors Buschke, Berlin, and E. Hoffmann, Bonn.

Deaths in Other Countries

Charles Plumley Childe, vice president and formerly president of the British Medical Association, consulting surgeon, Royal Portsmouth Hospital, Portsmouth, England, author of "Cancer and the Public," "The Control of a Scourge" and of many articles in British medical journals, died January 30, of heart failure following pneumonia and influenza.——**Dr. O. Stoerk**, Vienna, professor of pathology and director of the institute for pathologic histology and bacteriology, aged 56.——**Dr. A. von Ins**, Berne, privatdozent for dermatology and syphilis, aged 77.——**Dr. W. Autenrieth**, Freiburg, professor of medical chemistry, aged 63.——**Dr. Kamil J. Lhotak**, Prague, professor of pharmacognosy, aged 49.——**Dr. O. Piffl**, also of Prague, professor of otology and rhinology, aged 60. A *Festschrift* had been prepared to honor his sixtieth birthday. He died on the day it appeared, the birthday itself.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 6, 1926.

Education of Children Suffering from Defective Vision

The Council of British Ophthalmologists has issued an important report on the education of children having defective vision. It considers that special educational facilities are required for those for whom the ordinary school education is unsuitable; e. g., children with progressive myopia, defective vision due to corneal opacities, or congenital abnormalities. Classes that give such facilities exist, and are termed by the board of education "schools for the partially blind." This term is undesirable, as it gives offense to parents and may leave a stigma detrimental to the child in after life. The term "myope class" is already in use, and connotes the purpose for which this form of education is designed. It has been found that the best interests of these children are served if such classes are held in association with elementary schools, because the oral teaching and physical exercises given in the ordinary classes are available for the children. By this system association is fostered between those with defective sight and normal children. As the children in these classes are of various ages and educational standards, individual teaching is essential, and it has been found advisable to limit the number of children in each class. The system of teaching by means of "myope classes" may seem to limit education so far as high scholastic attainment is concerned, but it has been found undesirable to encourage these children to follow a higher education, with the prospect of a sedentary occupation, thus incurring grave risks of serious breakdown later in life. In London there are now forty-one "myope classes," providing accommodation for 915 children. In the rest of England there are four "myope schools," and provision for other children with defective sight is made in special classes and in schools for the blind. Such provision is seriously inadequate. In country districts where the number of children with defective sight is insufficient to form special classes, some provision should be made either to send them to one of those classes in the nearest town or for their teachers to receive instruction in their management. The council endorses the recommendation of the departmental committee on the causes and prevention of blindness that further provision should be made by education authorities for the education in myope classes or by similar methods for children with serious defects of vision requiring such facilities, and that steps should be taken to discover these cases at such an early age as will allow of preventive measures being adopted. The council therefore recommends that: 1. Children with defective sight should be examined periodically by an ophthalmic surgeon, who should prescribe the necessary treatment and educational regimen. 2. In all large centers of population, special classes should be established for children with such defective sight as renders them unsuitable for ordinary school education. These classes should be associated with the ordinary elementary schools, and limited to a nominal roll of twenty children to each class. 3. In country districts where there are not sufficient children to form a "myope class," instruction should be given to teachers and parents on the education and management of children with defective sight.

Facilities for Prolonged Treatment of Rheumatic Infection in Childhood

An important report on rheumatism in childhood was submitted to the Metropolitan Asylums Board by Dr. W. T. Gordon Pugh, chief medical officer of the board's children's and surgical tuberculosis services. In 1923, one eighth of the deaths in England and Wales were registered as due to heart disease, and it has been estimated that one half of all cases of heart disease are of the rheumatic type. At Bristol, Dr. Carey Coombs found that, in two thirds of his cases, rheumatism commenced between the ages of 5 and 15. It follows that in childhood it is eventually responsible for one twenty-fourth of all deaths. Insufficient attention has been paid by health authorities to the prevention and treatment of rheumatic fever in children. Rheumatic fever is exceedingly rare in infancy and uncommon under the age of 5. After 5 it is not only one of the most frequent diseases of childhood but one of the most serious, differing from the same disease in adults in that joint affection is much less prominent. There are six London children's hospitals. The five that publish annual medical reports contain 706 beds. In 1924 these received 10,096 inpatients, of whom 377 (3.7 per cent) suffered from rheumatism or its effects (rheumatism, 99; morbus cordis, 117; chorea, 161). The pressure on the accommodation of voluntary hospitals calls for a somewhat rapid passage of patients, and the average stay, omitting cases of adenoids, varies from twenty to thirty days. The stay of rheumatic patients is generally longer; at the Hospital for Sick Children, Great Ormond Street, it averaged sixty days in 1919-1920. Some children's hospitals have their own convalescent homes and are able to transfer a small number of their rheumatic patients to them; a few patients are transferred to special country homes of limited accommodation; sometimes it is necessary to send these patients home to await vacancies. Physicians have long lamented the necessity for the premature return of rheumatic patients to their homes. Many patients are treated at general hospitals, but as children are not separated from adults in the statistics, it is not possible to ascertain the number. The difficulty of providing for adults treatment of sufficient length is even greater than in children's hospitals. Poor-law hospitals take a large part in the treatment of acute cases. From these hospitals they are transferred to country hospitals under the Metropolitan Asylums Board, which controls all fever hospitals. A memorandum from the Invalid Children's Aid Association submitted to the London County Council points out two practical difficulties in obtaining treatment in the board's county hospitals; viz., the natural objection of self-supporting parents to application to the poor-law and the almost insuperable difficulties in the path of a direct transfer from the wards of a voluntary hospital to these institutions. It suggests that the council should take beds in voluntary homes for heart cases, and recommends that direct admission to the board's hospitals should be arranged to avoid the intermediate agency of the boards of guardians. Last year, in a report on rheumatic diseases among insured persons, Sir George Newman, principal medical officer of the ministry of health, said that children suffering from rheumatic infection are better for early hospital treatment, and that there is need for more institutional accommodation. They should not be mixed with other invalid children, but dealt with in separate open-air hospitals or residential recovery schools, where cooperative research can be undertaken into differential diagnosis and causation, and where suitable treatment, training of the body, education of the mind, and prolonged convalescence are available. Having considered Dr. Gordon Pugh's report, the Metropolitan Asylums Board adopted his suggestion that accommodation for rheumatic children should be provided at Queen Mary's Hospital for Children, Carshalton, Surrey.

The Archives of Disease in Childhood

A new children's journal is about to be published. For some time it has been felt that English work in pediatrics is inadequately presented by existing publications. The object of the new journal, the *Archives of Disease in Childhood*, is to collect and publish the work being done here in this sphere which is overlooked and ill appreciated both at home and abroad. The first number will be published in February. It will be edited by Dr. Hugh Thursfield of London. There is a general committee representative of the principal medical centers. The journal will be well illustrated. The first number will contain a colored plate to illustrate a paper on hepatic cirrhosis in children by Dr. Poynton and Dr. W. G. Wyllie. The *Archives* will appear every second month, and the annual subscription is $6. The titles of the articles of the first number are: "Hepatic Cirrhosis in Children, with Especial Reference to the Biliary Forms"; "Adrenals in Severe Rheumatic Heart-Block"; "Pes Cavus"; "The Incidence of Rickets in a London Hospital Outpatient Department"; "The Clinical Diagnosis of Rickets in Infancy"; "A Study of Rickets: Incidence in London"; "Recent Advances in the Diagnosis and Treatment of Purpura Haemorrhagica"; "Ketonuria and Urinary Acidity"; "Immuno-Transfusion," and "Measures in Infant Feeding."

Food Preservation

The report of the food investigation board, giving the results of the further examination of scientific problems arising out of the handling and preservation of food, has just been issued by the department of scientific and industrial research. It relates to investigations carried out during 1924 mainly on the freezing of beef, the use of low temperature and of carbon dioxide in the preservation of fruit, and the preservation of eggs. Dealing with the theory of freezing, it is pointed out that, when meat is frozen, water separates out as ice on the outside of the muscle fibers, and when the mass is thawed drains away, carrying with it in solution a certain amount of nutritive material. This bleeding, or "drip," as it is called, is more copious with beef than with mutton. The reason for the difference is unknown, though it may in part be due to the slower rate of cooling of the larger carcasses. When beef is frozen rapidly enough, the separation of water is totally suppressed, and the thawed product is no different from fresh beef. The aim in the further investigation of the problem is to discover another method of freezing. The results achieved in regard to meat and eggs are described, and, with reference to the preservation of fruit and vegetables, it is stated that fundamental work has been continued on the effect of orchard conditions and the age of the tree on the storage qualities of apples. The study of the nature and biologic significance of the volatile products produced during storage has also been continued, and investigations bearing directly on commercial practice include comparison of the relative efficiency of "gas" and cold storage of fruit, further study of rot-forming fungi, and the effect of orchard conditions on the resistance of fruit to such fungi.

VIENNA

(From Our Regular Correspondent)

Jan. 9, 1926.

Increase of Worm Infestation in Austria

During the last twenty or thirty years, there has been in Austria a distinct increase of affections due to intestinal parasites. Therefore, the Vienna Medizinisches Doktoren-Collegium recently gave a course of instruction on the subject. Drs. Neurath and Bauer delivered the lectures.

Incidence of Typhoid in Austria

An epidemic of typhoid in the vicinity of Vienna, though confined to three localities, gave rise to a considerable number of cases and caused public alarm before it was suppressed. From recent statistics published by Dr. Peller it may be observed that, in 1919, there were 3,944 cases of typhoid reported in Austria, resulting in 536 deaths; in Vienna alone there were 701 cases with 170 deaths. In 1920, there were 2,761 cases with 315 deaths; in Vienna, 478 cases with 109 deaths. In 1921, there was a marked increase in the incidence: 4,268 cases with 404 deaths; in Vienna, 530 cases with 121 deaths. The next three years, from 1922 to 1924, inclusive, show considerable decrease:

Year	Total Number of Cases	Number of Fatal Cases	Number of Cases in Vienna	Number of Fatal Cases in Vienna
1922	2,303	241	419	85
1923	2,013	250	383	49
1924	2,285	196	445	68

The high mortality in Vienna is due to the fact that the severe cases in the rural districts were frequently brought to the hospitals for infectious diseases, in that city, while the milder cases were retained in the provincial hospitals or were kept at home. Statistics of the ministry of health show that there are certain regions in which typhoid is endemic, whereas Vienna seldom has other than sporadic cases. The endemic character of the disease in certain rural sections is doubtless due to the fact that there is no supervision of sanitary and prophylactic measures by health officers. As yet, no legal measures can compel a typhoid patient to be brought to a hospital. Another weak point is the fact that the private practice of the health officer may cause a conflict between private interests and public duty. In order to avoid such a situation, it has been urged that, in the event of epidemics, health officers from outside be called in to assume control.

Deaths Among the Staff of University Professors

During the last two weeks, the University of Vienna has lost by death three of its best known professors. Professor Pollitzer, in spite of the fact that he attained only the age of 48, contributed much to the present established position of the Vienna school in the study of metabolism. His researches on gallbladder function, peptone solutions, arrest of hemorrhage in tuberculous patients and on insulin have served to establish his reputation. During his investigations, he became infected with tuberculosis, and succumbed after both lungs and larynx had become involved.

Prof. J. Bartel was known for the originality of his genius. He succumbed to a rapidly developing attack of pneumonia. At the beginning of his career, he devoted himself to pathologic anatomy, and, as assistant director, and, later, as director, of the pathologic institute of the Vienna General Hospital, he remained for twenty-five years in the same position. He studied the relations between constitution and disease. His three chief investigations concerned the lymphatic system with relation to tuberculosis, the reciprocal relations between climate and meteorology, and mortality in relation to morbidity.

The third loss that the university faculty has sustained is the passing of Prof. Karl August Herzfeld. He was sprung from a Vienna family that has produced many physicians. He was graduated in medicine in 1885, and, for many years, served as assistant to Professor Langer, who occupied the first chair of anatomy. Later he became assistant to Professor Schauta at the Frauenklinik, or women's hospital, where he soon became the most capable operator. During that period, he wrote an illuminating textbook "Der Geburtshelfer" (the obstetrician). He soon developed a private practice so extensive that he scarcely found opportunity for research. Nevertheless, he continued to contribute articles on operative technic, the cancer problem, the theory of eclampsia and theoretical problems of birth mechanism. Since 1911 he had served as the director of a special hospital, and he was regarded as one of the leading gynecologists of Vienna.

PRAGUE

(From Our Regular Correspondent)

Feb. 1, 1926.

Death of Professor Lhotak

The Czech Medical Faculty of Prague suffered another loss, January 27, when Prof. Kamil Lhotak, professor of pharmacology and pharmacognosy at the Charles University, died of cancer of the stomach. He was born in Prague in 1876 from an old Bohemian family. He obtained his medical degree at the Czech Medical Faculty in Prague. Shortly after his graduation he became interested in the study of physiology and became assistant of the Prague physiologist Dr. F. Mares. Later on he became a right hand man of the founder of Czech pharmacology, Professor Chodounsky. In 1905 he became lecturer and in 1914 professor of pharmacology, in which capacity he served to the premature end of his life. He devoted himself to the study of physiology of muscle, the action of heart muscle under the influence of chloroform and ether, and the active substances of digitalis. He published two big manuals for students, one of them on pharmacology; the other, on pharmacognosy. Because he lectured not only to the medical students but also to the candidates of pharmacy, he exerted a strong influence on the use of drugs. He believed that by the use of proprietary and "patent" remedies both physicians and pharmacists became mere agents of the chemical industry. Professor Lhotak served on most of the committees of the medical faculty, and worked out the plans for the concentration of the buildings of the Czech Prague Medical Faculty. Shortly before his death his institute moved into a new building, perhaps better than any other pharmacologic institute on the continent. He was interested in the history of Czech medicine and was an anthority on the life and work of the Czech physiologist Jan Purkyně.

Mortality from Tuberculosis

Dr. F. Skalnik's recent analysis of tuberculosis mortality for the province of Moravia shows an increase in the last years of the World War but a decline in the postwar years. The curve, then, resumes the slope it presumably would have taken if the war had not caused an interruption. According to Dr. Skalnik's explanation, two main factors come into play in the causation of tuberculosis mortality: one factor is hygiene; the other factor is the action of the Koch bacillus on the human race. During the war, the first group, hygienic care, almost collapsed. When conditions improved somewhat, the second factor became dominant. Dr. Skalnik believes that the after-war drop of tuberculosis mortality is not the result of the antituberculosis campaign. He predicts that the coming fight to lower the mortality will be more difficult because now only specific weapons against the tubercle bacillus will avail. The Health Committee of the League of Nations is studying the same topic on the basis of international statistics.

Death of Professor Piffl

Prof. Dr. Otto Piffl of the Prague German Medical Faculty died, January 19. He was one of the most famous specialists on diseases of the ear, nose and throat in central Europe. He died on his sixtieth birthday, the day on which the Prague German Medical Faculty was to publish a memorial volume containing contributions from his pupils. He was born in 1866 in Lanskron, Bohemia, and obtained his medical degree at the Prague German Medical Faculty. He became assistant to Professor Zaufal, who was at that time the chief of the ear clinic in Prague. In 1906 he was appointed assistant professor and in 1907 became chief of the German ear clinic in Prague. His special field was surgery of the brain necessitated by complications of inflammatory processes of the ear. He was the president of the Association for the Study of the

Diseases of the Ear, Nose and Throat in the Czechoslovak Republic. Many foreigners came to Prague for his advice and assistance.

Sixtieth Birthday of Professor Ghon

The German Medical Faculty in Prague announces that Prof. Anton Ghon has achieved his sixtieth birthday. He is the chief of the Institute for Pathological Anatomy of the German Medical Faculty in Prague and since the death of Professor Jaksch has been the leader of the teaching staff of his faculty. He was born in Villach, Austria, and obtained his education in Vienna. He was a favored pupil of Professor Weichselbaum, who sent him to Prague when Dr. Chiari died. Since then he has occupied the chair of pathologic anatomy. He took part in an expedition to India for the study of bubonic plague, from which originated a monograph on the same topic. His name is also closely connected with the social and pathologic study of tuberculosis. He is the founder and editor of the Prague edition of the *Medizinische Klinik* and a prominent member of most of the scientific bodies in Prague.

Housing Shortage in Prague

When Prague became the capital of an independent state to which many of the central authorities transferred their place of residence, the housing shortage became very acute. During the war practically all building had been brought to a standstill. Later on new government office buildings were erected, and with the aid of state funds also the construction of private apartments was stimulated. In spite of these measures, the housing shortage continued, especially for the poor. Last year a movement set in among those most in need to provide housing accommodations for themselves. As a result, large colonies of huts sprang up on the outskirts of the city in spite of the efforts of authorities to suppress the movement. In some instances old railroad cars were used, but most of the huts were built by the inhabitants themselves from material that they were able to get together. Naturally, with sanitary equipment lacking in these colonies they develop into dangerous foci of infectious diseases, including typhoid. These colonies grow because they attract not only those who entirely lack shelter but also those who possess an apartment but are willing to turn it over to another family for a considerable reward. Therefore, a considerable sum has been appropriated for the construction of small apartments for the poor. In the meantime, an effort will be made to improve the sanitation in the present colonies, for it is anticipated that several years will elapse before the colonies will completely disappear. In all these colonies, all sorts of animals are being kept which give rise to further nuisances. Recently a census of animals in Greater Prague revealed a considerable number of animals kept within the boundaries of the city. The city, which has a population of about 700,000, shelters also 6,813 horses, 319 sheep, 3,574 cows and oxen, 4,797 goats, 3,531 pigs, 14,922 rabbits and 61,933 poultry. A considerable number of agricultural communities was incorporated into the city when Greater Prague was formed. Nevertheless, the number of animals kept in the city is too high. A drive is also planned by the city health authorities against this nuisance.

Insurance and the Public Health

Dr. F. J. Boudreau, originally from the state health department of Ohio and the present assistant director of the commissariat of the health committee of the League of Nations, has recently visited Prague for the inauguration of a study which was proposed by the Czechoslovak delegation to the League of Nations. The study is to determine the relationship of sickness, invalidity and old age insurance to the official public health machinery, and to investigate the possibilities for closer cooperation. The proposal grew out of the observation that the large sums of money involved, if properly directed, could aid in the promotion of national health. A committee was formed in Prague to make a preliminary inquiry into the question and present its preliminary report to the spring meeting of the council of the league.

ITALY

(From Our Regular Correspondent)

Jan. 3, 1926

The School of Colonial Pathology at Bologna

Discussing the activities of the school of tropical medicine, Dr. Sarnelli stated that the school was established a year ago at the University of Bologna, to provide instruction for physicians who are planning to go to the colonies. The directorship was entrusted to Prof. Giuseppe Franchini. Instruction has been given in appropriate subjects and has been combined, as opportunity offered, with laboratory practice. Many patients with tropical diseases presented themselves at the school and became subjects for study. Many of these came from the locality in which the school is located, some as the result of the antimalaria and the antidysentery campaigns, others were workers on railway construction, and infested with intestinal parasites; still others were workmen returned from the colonies.

Appointment of New Rectors in Italian Universities

Senator Agostino Berenini, who for many years has been rector of the University of Parma, has resigned and has been succeeded by Prof. Camillo Callenga.

Professor Severi has resigned from the rectorship of the University of Rome, Professor Giorgio Del Vecchio having been chosen as his successor.

Prof. Filippo Bottazzi, director of the institute of physiology and biologic chemistry, member of the Accademia dei lincei, and honorary professor of the University of Edinburgh, has been selected to succeed Professor Zambonini in the rectorship of the University of Naples.

At the University of Pisa, the office of rector has passed from the hands of Professor D'Acchiardi to Prof. Vittorio Aducco, director of the Institute of Physiology.

The Introductory Lecture of Professor Gayda

Accepting a call from the University of Cagliari to the University of Bari, Professor Gayda delivered, December 5, his introductory lecture on "Modern Views on Nerve Excitability." He first defined the conception of excitability in general, and then gave a synthetic exposition of the facts that have been demonstrated by various authors in recent years with regard to the excitation of motor nerve, dwelling more particularly on the researches of Lapicque and his school on the chronaxia and on the studies of Lucas on the course of the recovery of motor nerve after the passage of an excitation.

Italian Physicians Resident in Foreign Lands

The national institute for the economic expansion of Italy in foreign lands has solicited the aid of all Italian consuls and consular agents in preparing a census of the Italian physicians in foreign lands, and obtaining information concerning each physician. The institute proposes to make better known the merits of Italian physicians living abroad, and to inform them of the progress Italy has made in industrial sanitation, with the hope that some of the newer ideas will be introduced in foreign lands. The institute, with headquarters in Milan (Via Silvio Pellico 6), requests those who have definite information in regard to Italian colleagues residing in foreign countries, or the physicians themselves, to furnish data concerning them. The institute desires also information with reference to Italian hospitals, welfare centers and the like located in any country of the world.

The Crusade Against Cancer

Minister of the Interior Federzoni has addressed to the prefects of the realm a circular letter in which he states that the crusade against malignant tumors should have three distinct objects: the scientific, the therapeutic and the hygienic; the scientific purpose being to discover the pathogenesis of the disease, the therapeutic object to study new curative measures and to perfect those already existing, and the hygienic outlook to provide for the prevention of this class of diseases. With these objects in view, there will be established in the chief city of each province a cancer center for diagnostic research, which will be supplied with ample clinical and laboratory facilities. These centers, to be located preferably in scientific, hospital or clinical institutes, will pursue the following aims: (1) the early diagnosis of cancer; (2) aid to cancer patients, including removal, when possible, to suitable therapeutic institutions; (3) inquiries into the individual lives of patients, their occupations, their family history and their home environment; (4) the collection of study material for the better recognition of the disease and its causes, and (5) the launching of an active campaign against cancer among the general public. The work of the centers of diagnostic research should be supplemented by special committees that would seek to coordinate the various activities and movements.

The Antituberculosis Sanatorium in Sicily

In honor of the twenty-fifth anniversary of the coronation of Victor Emmanuel III, an Italian diplomat has contributed a considerable sum to be used for charitable purposes in southern Italy and the adjoining islands. A portion of the donation has been allotted to the Istituto d'igiene, previdenza ed assistenza sociale, founded and directed by Prof. Ettore Levi, to serve as an initial contribution toward the construction of an interprovincial tuberculosis sanatorium to be erected in the commune of Caltagirone (Sicily). The sanatorium will bear the name of the king.

Award of the Lallemand Prize

The French Academy of Sciences has awarded the Lallemand prize to Dr. Piera Locatelli, assistant in the institute of general pathology and histology at the University of Pavia, for researches on the influence of the nervous system on regeneration processes.

The Death of Celso Pellizzari

Prof. Celso Pellizzari, director of the Clinica dermosifilopatica and of the Istituto fototerapico at the University of Florence, died, December 25, from pneumonia, at the age of 74. He was a descendant of two famous clinicians of the Florentine school of medicine, Profs. George Pellizzari and Peter Pellizzari. Almost immediately after his graduation, he devoted himself to dermatology and syphilology, becoming associated, about forty years ago, with the dermatologic clinic at the University of Siena. A few years later, he won, through a competitive examination, the important chair at the University of Pisa, which he held until 1892. There he founded the school of dermatology and syphilology. From Pisa he removed to Florence, where he was engaged principally in scientific work and the work of organization. He succeeded in providing for his clinic a laboratory supplied with modern equipment for research work. He also transformed the old infirmaries into clean and well ventilated institutions, and established a dispensary for dermatologic patients that is in keeping with modern ideas. But his chief service to humanity was the creation in Florence of a radiotherapeutic institute. In founding the institute he contributed generously of his own funds. Among his fifty or more scientific publications, of special importance are: his researches on the modifications in the bones in hereditary syphilis, on cerebral syphilis, on serotherapy and attenuation experiments in syphilis, together with numerous articles on interesting cases and questions of practical interest. In the field of venereal disease, he was among the first to appreciate the importance of public prophylaxis. Professor Pellizzari was the recipient of numerous orders of knighthood; he was corresponding member of the Royal Society of Medicine of London; of the Italian, French and Danish societies of dermatology and syphilology; of the Società italiana di radiologia; of the Royal Academy of Medicine of Rome; of the Accademia medicofisica of Florence; of the R. Accademia dei Georgofili; of the Società per gli studi contro il cancro, and of various other scientific associations.

BERLIN

(From Our Regular Correspondent)

Jan. 16, 1926.

Health Conditions in Prussia

In Prussia, in recent years, the housing situation has grown worse. In the town of Jülich (population 8,800), 542 families were unable to find dwellings. In Hirschberg, 70 per cent of the population had only one room. In Stade, 159 tuberculous persons were sleeping in the same rooms with healthy members of the family; sixty-eight tuberculous persons were sleeping in the same beds with healthy persons. In Schweidnitz, of 268 young children, thirty-seven were living with five and more persons in single rooms. In the fourteen towns of the government district Marienwerder, 15 per cent of the school children were sleeping three in a bed; in the township of Wiedenburg, 16 per cent. In Wilhelmsburg, 500 families had not space enough to put up the beds they needed. In a village in Wittmund township, the parents and twelve children of one family were living in an unfinished barn, one corner of which was reserved as a sleeping room for the parents and the younger children, while the remaining children slept in the outbuildings.

The status of children who were born the last year of the war and during the hard years immediately following it was the worst of any of the age groups of the population, while the condition of the infants was, in general, satisfactory. The infant mortality was the lowest ever recorded in Prussia, and in some districts the rates were as low as hitherto has been known only in Scandinavian countries. Nevertheless, in some districts as high as 29.7 per cent of the young children examined were suffering from rickets, some so severely that they did not learn to walk until they were 3 years old. The nutrition and general health of school children have improved perceptibly, though prewar conditions have not yet been reached. Girls showed more improvement than boys. In the cities of the commune of Schleswig the percentage of school children who were undernourished has been reduced from 20 to 12.5; in rural places the corresponding figures were 10 and 7.5 per cent. In Paderborn, 122 of 137 school entrants were suffering from rickets, scrofula or anemia. Almost half of the school graduates in Wandsbek were undernourished and looked like 11 or 12-year-olds. In Königsberg, of the school graduates, 17 per cent of the boys and 19 per cent of the girls were unfit for any regular occupation; the same was true of 15 per cent of the school graduates in Cologne. Among the causes of these conditions are child labor, lack of food (although school lunches and vacations in the country have worked wonders), lack of clothing, lack of beds, bad housing conditions, and neglect. Although the tuberculosis mortality was the lowest ever recorded in Prussia (11.8 deaths per 10,000 population), a tremendous number are still infected. From twenty-eight government districts the following figures were reported: Of school children, the number per thousand infected in various years was: in 1913, 8.3; 1919, 17.2; 1923, 32.7; 1924, 25.9. The corresponding figures for adults were: in 1913, 5.5; 1920, 7.2; 1924, 9.2.

Food costs so much that the allowance for clothing is small. In Glatz 14.5 per cent of the pupils; in Neisse 5 per cent, and in Soltau 9 per cent gave lack of clothing as the reason for absences from school. In Sagan (Lower Silesia) 10 per cent did not have shirts. In Wülfrath, of thirty-eight school children, three had only one shirt; in Glatz, of 5,874 pupils, 365 had but one shirt.

Among juveniles, a slight improvement in health was noted, due, in part, to the young men's clubs, and, in part, to the increased interest in sport and physical exercise.

A sign of the bad economic situation is the decrease in the number of marriages and the increase of suicide. In 1921 there were twelve marriages per thousand population; in 1924 only seven couples were married. Furthermore, the number of miscarriages is increasing, owing, in part, to the fact that more women are doing heavy work.

The Spleen and the Pathogenesis of Anemia

Before the Leipziger medizinische Gesellschaft, Professor Hueck, pathologist, recently gave an address on the part played by the spleen in anemia. Pathologic changes observed in the spleen in anemia are so varied that there are no typical findings. Specific changes for pernicious anemia have not been discovered; the vascular changes described by Eppinger are by no means characteristic. Nor is the relation between function and structure as yet clearly demonstrated. The idea of a splenic tumor arising from waste products was discussed. The spleen is a depository for waste products from the blood, but its iron content, in pernicious anemia especially, is often strikingly small. (Hueck observed in typical pernicious anemia degrees of iron content from very slight to very marked.) In adults anemia may be the cause of erythrocyte-forming foci developing in the spleen; but in pernicious anemia they are often wanting. Some have come to regard the spleen as an active hemolytic organ. The spleen is a specific organ and not merely a part of the reticulo-endothelial apparatus. Morphologic evidence of an active hemolytic rôle of the spleen in pernicious anemia has not been adduced. Phagocytosis of red blood corpuscles occurs only to a limited extent and by no means regularly. In connection with the new physiologic experiments of Bancroft, Hueck discussed the rôle of the spleen as a depository and regulator of the blood volume. The circulation of the spleen must be designated, in general, as "open"; that is, spleen reticulum is interposed between the end of the arterial and the beginning of the venous circulations. The reticulum is a system of contiguous blood spaces, which, according to their distention, have the appearance of being closed or open. In the collapsed condition of the spleen, the blood flows from the arterial capillaries almost directly into the venous sinuses. As to the structure of the venous sinuses, Hueck thinks that in the collapsed spleen the venous sinuses present a membrane-like wall. The more the spleen becomes distended, the more the wall of the venous sinuses takes on the appearance of a lattice-work, through which occasionally cells may protrude. The fact that the spleen may be a blood depository must not be underestimated, since in the cat from 10 to 20 per cent of the total blood volume, and in the dog fully 20 per cent, can be stored by the spleen. With reference to that function, two distinct parts must be distinguished: (1) the venous sinuses, which can store a large quantity of blood, but in which blood corpuscles are not necessarily destroyed, and (2) the blood spaces in which blood corpuscles are destroyed. The opening and closing of the latter is controlled not only by mechanical factors but also by the nature of the blood, nervous influences, and the like. Whether that portion has an active hemolytic rôle cannot be stated as yet with certainty. Our knowledge must be extended through irrigation methods (also by experiments on man), material for which is difficult to procure.

Marriages

Conrad Ray Nystrum, Medford, Wis., to Miss Irma Mechelke of Birnamwood, at Waukegan, Dec. 19, 1925.

Gerald A. Ezekiel, Richmond, Va., to Miss Julia-May Sommers of Washington, D. C., February 22.

Wilmer C. Edwards, Richland Center, Wis., to Miss Lucile B. Postel of Muscoda, February 19.

Wilkie B. Rice to Miss Georgianna Barnes, both of Fort Wayne, Ind., January 5.

Emil N. Bizub to Miss Ann K. Biczak, both of Passaic, N. J., January 12.

Deaths

Charles Alexander Pfender ⊕ Washington, D. C.; George Washington University Medical School, Washington, 1905; professor of roentgenology and electrotherapeutics, Georgetown University School of Medicine, Washington; member of the Washington Society for Nervous and Mental Diseases, the American Roentgen Ray Society and the Radiological Society of North America; on the staffs of the Sibley and Tuberculosis hospitals; aged 48; died, February 17, in Boston, following an operation.

Ira Albert Leighton, Boulder, Mont.; University of Michigan Homeopathic Medical School, Ann Arbor, 1885; state senator; for about thirty years on the staff of the Montana School for the Deaf and Blind and Training School for Backward Children; county physician for several years; aged 67; died, February 2, at the Murray Hospital, Butte, of carcinoma.

James Frederic Alexander, Jasper, Ala.; Vanderbilt University Medical Department, Nashville, 1893; member of the Medical Association of the State of Alabama; secretary of the Walker County Medical Society; on the staff of the Walker County Hospital; aged 54; died, February 6, of pneumonia.

Charles Clancy Grandy ⊕ Fort Wayne, Ind.; Rush Medical College, Chicago, 1911; member of the American Roentgen Ray Society and the Radiological Society of North America; on the staffs of Indiana School for Feebleminded Youths and the Lutheran Hospital; aged 40; died, February 12, of chronic nephritis.

William Topping Watson ⊕ Baltimore; University of Maryland School of Medicine, Baltimore, 1891; formerly professor of therapeutics, at his alma mater; member of the American College of Physicians; aged 63; died, February 6, at the Church Home and Infirmary, of septicemia.

Henry Ellis Sanderson ⊕ Stockton, Calif.; Cooper Medical College, San Francisco, 1885; formerly on the faculty of his alma mater; for more than thirty years on the staff of the Stockton State Hospital; aged 67; died, February 8, at St. Joseph's Hospital, of pneumonia.

John Everitt Pickard ⊕ Reno, Nev.; Victoria University Medical Department, Toronto, Ont., Canada, 1885; formerly county physician; aged 69; died, January 27, at the Morton Hospital, San Francisco, of pulmonary infarct following fractures of ribs.

James Third, Kingston, Ont., Canada; Trinity Medical College, Toronto, 1891; formerly emeritus professor of medicine, Queen's University Faculty of Medicine; for five years superintendent of the Kingston General Hospital; aged 60; died, Dec. 17, 1925.

Edward Loftus Hope Barry, Jerseyville, Ill.; Rush Medical College, Chicago, 1860; Civil War veteran; formerly mayor of Jerseyville, county coroner, county physician and member of the board of education; aged 88; died, February 4, of bronchitis.

Henry Warren Rogers ⊕ Cleveland; University of Buffalo (N. Y.) Department of Medicine, 1880; formerly emeritus professor of medical diagnosis and clinical medicine, Cleveland College of Physicians and Surgeons; aged 67; died, February 1.

Barton Greene Dupre, Los Angeles; Western Reserve University School of Medicine, Cleveland, 1916; member of the

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⊕ Indicates "Fellow" of the American Medical Association.

California Medical Association; formerly a practitioner in Indiana and Ohio; aged 35; died, January 31, following an operation.

Harry Hillard Weer, Indianapolis; Eclectic Medical Institute, Cincinnati, 1884; Central College of Physicians and Surgeons, Indianapolis, 1904; member of the Indiana State Medical Association; aged 64; died, February 4, of heart disease.

Hiram Sturgeon Rogers, Red Oak, Iowa; College of Physicians and Surgeons, Keokuk, 1876; University of Illinois College of Medicine, Chicago, 1886; Confederate veteran; aged 81; died, January 31, at a local hospital, of senility.

Henry Archbold Fischer, Jamaica, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1906; member of the Medical Society of the State of New York; aged 41; died in January, of bronchopneumonia.

Frederick A. Stine ⊕ Newport, Ky.; Cincinnati College of Medicine and Surgery, 1901; member of the House of Delegates of the American Medical Association, 1924 and 1925 sessions; aged 58; died, February 6, of pneumonia.

Horace Ray Chapman, Bennett, Iowa; State University of Iowa College of Medicine, Iowa City, 1901; member of the Iowa State Medical Society; formerly state senator; aged 52; died, February 1, of heart disease.

Isaac Lincoln Roberts, Boston; Leonard Medical College, Raleigh, N. C., 1894; on the staff of the Massachusetts General Hospital, where he died, January 21, of arteriosclerosis and cerebral hemorrhage, aged 55.

Frederick Clifford Gay, Brooklyn; Medical Department of the University of the City of New York, 1891; member of the Medical Society of the State of New York; aged 61; died, February 4, of heart disease.

Thomas J. Harrison, Montgomery, La.; Medical Department University of Louisiana, New Orleans, 1879; member of the Louisiana State Medical Society; died, January 28, of cerebral hemorrhage.

Nathaniel Vaughn Shannon ⊕ Cambridge, Mass.; University of Pennsylvania School of Medicine, Philadelphia, 1894; on the staff of the Cambridge Hospital, where he died, February 2, aged 62.

Henry Edward Brown, Utica, N. Y.; Medical Department of the University of the City of New York, 1888; member of the Medical Society of the State of New York; aged 59; died, February 3.

Harvey Ashbury Fawsett, Rome, N. Y.; University of Maryland School of Medicine, Baltimore, 1891; aged 57; died, January 28, at a hospital in Washington, D. C., following an operation.

Henry Ehrlich ⊕ Boston; Medical School of Harvard University, Boston, 1886; formerly on the staff of St. Mary's Infant Asylum and Lying-In Hospital; aged 60; died, February 5.

Robert S. Shipley, San Francisco; University of Wooster Medical Department, Cleveland, 1877; formerly a practitioner in Ohio; aged 73; died, February 4, of chronic nephritis.

Seth Burnham Foster, Eureka, Calif.; Medical Department of Columbia College, New York, 1869; for thirteen years county physician; aged 85; died, January 6, of senility.

Grace Darling Peele ⊕ Brooklyn; University of Michigan Medical School, Ann Arbor, 1907; aged 47; died, February 4, at the Long Island College Hospital, of endocarditis.

Joseph Hegeman Bogart ⊕ Rosyln, N. Y.; Bellevue Hospital Medical College, New York, 1872; formerly bank president; aged 79; died, February 3, following a long illness.

Cyrus Blazer McClurg ⊕ Independence, Kan.; Washington University Medical School, St. Louis, 1912; served during the World War; aged 40; died in January.

William Efner Wheelock ⊕ New York; Medical Department of Columbia College, New York, 1876; aged 73; died, February 3, at the Presbyterian Hospital.

Walter Edward Cladek ⊕ Rahway, N. J.; Medical Department of the University of the City of New York, 1877; aged 69; died, February 6, of pneumonia.

Theodore N. Rafferty, Robinson, Ill.; Medical College of Ohio, Cincinnati, 1869; member of the Illinois State Medical Society; aged 80; died, February 6.

William E. P. Tims, Ennis, Texas; Vanderbilt University Medical Department, Nashville, 1889; aged 62; died, February 4, of cerebral hemorrhage.

Jesse Allen Van Fossen, Columbus, Ohio; Medical College of Ohio, Cincinnati, 1893; aged 59; died, January 23, at the Grant Hospital, of pneumonia.

Henry B. Rockwell, Little Rock, Ark.; University of Pennsylvania School of Medicine, Philadelphia, 1881; aged 70; died, February 1.

John W. Groesbeck, Harvard, Ill.; Rush Medical College, Chicago, 1866; Civil War veteran; also a druggist; aged 87; died, February 8.

Orrin William Nash Austin, Topeka, Kan.; Ensworth Medical College, St. Joseph, 1908; aged 42; died, February 1, at St. Joseph, Mo.

William Henry Hudson Moore ⊕ Lafayette, Ind.; Rush Medical College, Chicago, 1906; aged 45; died, February 6, of pneumonia.

John Henry Alston, Sumnerville, S. C.; Leonard Medical School, 1893; aged 56; died, January 27, of cerebral hemorrhage.

Ida V. Stambach, Ojai, Calif.; Hahnemann Medical College of the Pacific, San Francisco, 1888; aged 72; died, February 8.

Nathan Rosewater ⊕ Cleveland; Cleveland College of Physicians and Surgeons, 1897; aged 70; died, February 9, of pneumonia.

Louis Weber, Los Angeles; Medical Department of the University of the City of New York, 1880; aged 65; died, January 28.

Flora A. Brown Casseday, Portland, Ore.; Hahnemann Medical College and Hospital, Chicago, 1898; aged 72; died, February 3.

Thomas Edwin Reeves, Camp Hugh, Ala.; University of the South Medical Department, Sewanee, 1906; aged 49; died, January 19.

George W. Swimley, Bunker Hill, W. Va.; Medical College of Ohio, Cincinnati, 1876; aged 88; died, February 1, of senility.

John Bunion Chastain, Blue Ridge, Ga.; Atlanta Medical College, 1895; formerly state senator; aged 68; died in January.

William Henry Weaver ⊕ New Orleans; University of Illinois College of Medicine, Chicago, 1883; aged 68; died, February 1.

Carroll E. Miller ⊕ Cadillac, Mich.; Rush Medical College, Chicago, 1879; aged 75; died, January 27, following a long illness.

Albert N. Hamilton, Waynetown, Ind.; Miami Medical College, Cincinnati, 1871; aged 78; died, January 23, of diabetes.

Franklin T. Johnson, Cottonwood Falls, Kan. (licensed, Kansas, 1901); Civil War veteran; aged 85; died, February 5.

Seth Mills, Valley Mills, Ind.; University of Michigan Medical School, Ann Arbor, 1869; aged 85; died, January 10.

Edward D. Snyder, Arcanum, Ohio; Medical College of Ohio, Cincinnati, 1872; aged 88; died, February 3, of senility.

Charles Edgar Smith, Los Angeles; Cleveland University of Medicine and Surgery, 1874; aged 76; died, Dec. 5, 1925.

Fred Thompson, Orleans, Mass.; Medical School of Harvard University, Boston, 1888; aged 61; died, January 7.

Joseph C. Alexander, Indianapolis; Medical College of Indiana, Indianapolis, 1895; aged 66; died, Dec. 3, 1925.

Norman E. Bachman, Portland, Ore.; Medical College of Indiana, Indianapolis, 1877; aged 81; died, January 30.

Kent Kane Straughan, Waveland, Ind.; Indiana Medical College, Indianapolis, 1878; aged 68; died, January 17.

Albert O. Lockhart, Lumpkin, Ga.; Meharry Medical College, Nashville, Tenn., 1891; aged 57; died, January 29.

Arthur C. Evelin, Aurelius, Mich.; Baltimore University School of Medicine, 1898; aged 51; died, January 31.

William Henry Hodges, Kansas City, Mo.; Kansas City Medical College, 1889; aged 61; died in February.

Louis E. Berner, Indianapolis; Medical College of Indiana, Indianapolis, 1901; died, January 25, of paralysis.

Karl F. Tipton, Erie, Pa.; Medico-Chirurgical College of Philadelphia, 1899; aged 47; died, Dec. 12, 1925.

Henry Hildreth, Delano, Calif.; St. Louis Medical College, 1874; aged 76; died, February 4.

CORRECTION

Virginia Helm Richardson Milner. — The death of Dr. Milner, noted in The Journal, February 13, was due to streptococcic meningitis which followed an infection of her hand received while operating; Dr. Milner was resident physician at the Children's Hospital, San Francisco.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

KIRKPATRICK'S PUL-BRO-TU

Another Quack Consumption Cure

In Portland, Oregon, one George Kirkpatrick, who places the mystic letters "M.D.C." after his name, exploits a remedy for tuberculosis under the name of "Pul-Bro-Tu." It appears that Kirkpatrick has made so much money in the sale of his nostrum for consumption that he has been tempted to take a flyer in other fields, selling "Rheugoit" for such widely differing conditions as "stomach complaint," "rheumatism" and goiter.

Kirkpatrick's name appears in the Portland telephone directory with the prefix "Dr." before it, although the man, of course, is not a physician. It is said that he had been a veterinarian previous to going into the consumption cure business. The State Board of Medical Examiners of Oregon reports that it has had the man arrested at various times for violation of the Medical Practice Act, and on one occasion secured a conviction. He was fined a trivial $25, which he paid and thanked the prosecuting officials for the cheap publicity he had obtained!

A Portland physician whose practice is devoted to the treatment of tuberculosis is said to have seen several victims who have taken Pul-Bro-Tu, having been called when they were having a hemorrhage.

As is common with the quacks that go into the consumption cure field, Kirkpatrick in the directions that go with his nostrum recommends at least some of the universally accepted routine hygienic and dietetic treatment for cases of consumption. This, of course, is an old dodge. It is done for the purpose of making a showing in court. It interferes not at all with the sale of the nostrum, first, because the victim *does not* get the directions *until* he has made the purchase, and second, because it is the universal experience of those who have investigated consumption cure fakes that the tuberculous who depend on nostrums pay no attention to the recommendations which are merely incidental to the taking of the drug. A consumptive who is convinced that by taking something out of a bottle he may be cured of his disease is not going to subject himself to the somewhat rigid requirements of rational treatment for this condition.

In order that the public might be given some information regarding this particular nostrum, Pul-Bro-Tu was analyzed in the A. M. A. Chemical Laboratory. The report follows:

LABORATORY REPORT

"Three original bottles of Pul-Bro-Tu ("Geo. Kirkpatrick, M.D.C., Portland, Oregon") were submitted to the A. M. A. Chemical Laboratory for examination. No statement of composition was given. Each bottle contained approximately 155 cc. (about 5 fluidounces) of a brown liquid with a small amount of sediment. The specific gravity of the solution at 15 C. was 1.0088. Qualitative tests indicated the presence of potassium, iodid, an arsenic compound and caramel. Heavy metals (other than arsenic), alkaloids, emodin-bearing (laxative) drugs, salicylates or coal tar derivates were not found. Quantitative determinations gave:

"Total solids (at 120 C.)	1.5	per cent
"Potassium (K^+)	0.25	per cent
"Iodid (I^-)	0.82	per cent
"Arsenic (as arsenous oxide)	0.0026	per cent

"From the foregoing analysis, it may be concluded that Pul-Bro-Tu consists essentially of a weak solution of potassium iodid and an arsenic compound—probably solution of potassium arsenite—colored with caramel. The dosage according to the label is '⅓ teaspoonful in a glass of milk, once a day'; this is equivalent to 0.014 Gm. (1/5 grain) of potassium iodid and 0.000035 Gm. (1/2000 grain) of arsenous oxide (or about 1/20 minim of solution of potassium arsenite—Fowler's Solution)."

From the chemists' report it will be seen that Pul-Bro-Tu is for all practical purposes merely a weak solution of potassium iodid and Fowler's solution. Summed up, it may be said that Pul-Bro-Tu has not the slightest value as a cure for tuberculosis. On the contrary, the product itself may easily do harm, while the consumptive who relies on it is virtually committing suicide.

Correspondence

PSYCHANALYTIC CLINICS

To the Editor:—In the *Archives of Neurology and Psychiatry* (**15**:139 [Jan.] 1926) appears a discussion on the subject of psychanalysis before the New York Neurological Society. The proposition was put forward by one speaker that there was now need of free clinics for psychanalysis, and he advocated that these be established as rapidly as possible. This proposition was approved by several other speakers.

The suggestion that psychanalytic clinics be established, emanating from one of our leading neurologic societies, calls for a protest by those who regard psychanalysis as having failed to establish itself as a scientific method and as having in it great potential elements of danger and little of good. This is not the time or place for a dissertation on the subject; but it ought to be generally known that the vast majority of men who are engaged in the specialty of nervous and mental disease reject and disapprove of freudianism. Many of the leaders of our specialty (including Sachs, Collins, Dana, Dercum, Burr and Mills), after painstaking investigation of the subject, have thoroughly repudiated freudianism as unscientific, as based largely on unproved assumption, and as being on the whole harmful in practice.

It is well known that in the American Neurological Association there are only a few members who approve of freudian theories and attempt to put them into practice. Freudian propagandists, like other propagandists, go ahead as though there were no opposition or that it did not count, as evidenced by this amazing proposition presented to the New York Neurological Society. Theodore Diller, M.D., Pittsburgh.

"FOOD" AND "NUTRITION"

To the Editor:—I have read with much interest an editorial in The Journal, February 6, entitled "A Nutritional Outlook." The movement of the editorial is clear until one reaches the last three sentences, in which the writer falls into a common error in confusing the terms "food" and "nutrition." No doubt there has been great improvement during recent years in the quality of food available, in the methods of its preparation and in the food intelligence of consumers. These facts, however, need not necessarily justify the statement made concerning possible "departures from the essentials of good nutrition." Gould's Medical Dictionary, for instance, defines "nutrition" as "the processes involved in the absorption and assimilation of those substances forming living tissue or supporting the processes of life." The French and earlier forms of the word indicate the same emphasis—concern primarily with the processes involved and not merely with the most obvious material—food.

Clinical studies continuing through many years have shown clearly that the problem of food is not the chief cause of physical unfitness or malnutrition. Even food habits prove to be a more serious matter than does food itself, as the improvement noted in the latter factor has not led to a corresponding improvement in those habits which are not subject to the benefits of objective standardization brought about in such necessities as bread, cereals and milk. Outside this particular field of food habits and food lie many factors involving health habits and conditions which, to mention only a few, are connected with nasopharyngeal disorders, fatigue and other occasions for toxic conditions seriously affecting "absorption and assimilation."

William R. P. Emerson, M.D., Boston.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

REMOVING SUPERFLUOUS HAIR

To the Editor:—I should like to get some information about the removal of excess hair on the face and neck. I have been told that this can be accomplished by electricity, but have been unable to find adequate instruction. One electrotherapeutic firm sold me some fine needles and told me that a small vibrator coil would furnish the necessary current to destroy the root of the hair. The coil I have has a primary and secondary with a movable soft iron plunger. I was instructed to connect the fine needle to the "negative" terminal of the secondary coil and insert it along the hair shaft to the root, after which I should turn on the current from a dry cell and regulate the buzzer interrupter to its highest frequency. The patient was to hold the "positive" terminal in the hand. I tried this on a willing patient and also on myself, but the result was not satisfactory. I was told that the hair root would immediately bubble and show a white mark on the skin. Instead, however, I got a most painful sensation and the hair root was not affected. Can you tell me whether the instrument is adequate? It is a small primary and secondary coil with a buzzer interrupter and a soft iron coil in the center, which is used to regulate the amount of secondary current. It is designed to run on one dry cell; but, of course, more can be added if necessary. Is the current from one cell (1½ volts) too small? Should there be any great amount of pain when the current is being run through its completed circuit? Is there any appreciable danger to the patient? Will you please give me some enlightenment or refer me to a book on this question?

Willis S. Knighton, M.D., New York.

Answer.—The instrument described is not satisfactory for electrolysis, as it is essential that the instrument contain a milliammeter, so that the operator can properly control the amount of current. Some pain is always experienced in the process of electrolysis, but, as a rule, this is not great. If the reaction is such as described, the current used probably is too large; but there would be no danger to the patient beyond the production of scars, which frequently occur when too large a current is used, or when the needle is left in the follicle too long. "Electro-Therapy Ionic Medication," by Harold H. V. Cross (Philadelphia, J. B. Lippincott Company) gives full details regarding electrolysis.

REMOVAL OF IRON RUST FROM WATER

To the Editor:—What chemicals are used to rid water of iron rust from pipes; also where the water contains soluble salts of iron which become precipitated by boiling? Are any of the preparations on the market with trade names used for this purpose injurious? I have a family subject to intestinal disturbances which makes me suspect that the cause is one of these so-called water softeners. Please use only initials.

F. M., Pennsylvania.

Answer.—Iron may be present in water to the extent of about 0.3 part of iron per million of water without causing a nuisance to consumers. In certain industries, as the manufacture of white paper, even this small amount may cause trouble. Methods of removal will depend somewhat on the presence of other impurities, such as organic matter, manganese and carbon dioxide. If the content of organic matter is low, aeration of the water, followed by sedimentation or contact with some material such as coke or crushed stone, is generally, but not always, successful. Iron is present in natural waters in the lower state of oxidation, and it is necessary to oxidize it in order to obtain nearly complete precipitation. The oxygen in the air may do this. In some cases it has been found necessary to add other oxidizing agents, as permanganate or chlorine. The ordinary sand filter will sometimes remove iron.

When organic matter is present, an oxidizing agent or a coagulant has been found necessary to remove iron. Lime and alum are used for this purpose. Lime may also be used to assist iron removal by aeration.

Water softeners generally remove iron. The lime-soda process is probably most frequently used, although zeolites have recently become popular. Numerous other chemicals are used for softening, but we are unaware that any are harmful. There is also probability that the iron is not in the original water, but is acquired out of the system in which the water circulates. Most natural water carries enough dissolved gas to start corrosive action, especially in warm places. If practical, the removal of the gas rather than the removal of the iron is often the preferred procedure.

CARBONIC ACID NAUHEIM BATHS

To the Editor:—Please inform me what other climatic stations, having carbonic acid nauheim baths, besides Mount Clemens, Mich. (Hot Springs, Ark.?) there are in the United States.

L. Z., Chicago.

Answer.—There are two places in the eastern United States where special facilities for giving carbonic acid ("Nauheim") baths may be found. They are Glen Springs, Watkins, N. Y., and Saratoga Springs, N. Y. At Glen Springs a technic has been developed during the last thirty years consisting of the use of saline carbonated baths and the valuable Stokes-Oertel hill climbing exercises for strengthening heart muscles. The waters are a strong saline having large quantities of sodium, calcium, magnesium and ammonium chlorides. They are heated to the required point and charged with carbon dioxide. The brine is diluted for baths, as the water is six times as strong as Sprudel XVI at Nauheim, Germany.

Saratoga Springs waters are likewise naturally cold and heavily charged with salines, but have natural carbon dioxide sufficient for the baths. They are heated for use.

The baths at Saratoga are administered under the control of the New York State Reservation.

In California there are resorts having thermal waters with a tolerably high carbonic acid gas content and salines. They approximate the Nauheim springs in that respect to only a very limited extent as, for example, Byron Hot Springs; but recent data as to facilities for treatment of heart disease are not at hand.

FURUNCLES FROM WRESTLING MATS

To the Editor:—A number of our athletes who wrestle have trouble with furuncles, apparently from the mats used. Please publish a simple method of efficient sterilization or disinfection for mats. Also recommend any local application that might be used on the skin of the athletes.

L. A. Mitchell, M.D., Stillwater, Okla.

Answer.—Wrestlers, like football players and oarsmen, suffer at times from furuncles. Some cases have been reported in which infection was apparently transmitted from one wrestler to another, although it could not be determined whether this was direct or by means of the mats. It is a good plan to use mat covers of canton flannel or some similar material which can be removed, washed and sterilized each week. In addition to this the mat covers and mats may be sprayed with solution of formaldehyde from time to time. The wrestlers' suits should also be washed thoroughly each week. Apparently there is no application to the skin that is an effective preventive, but the men should be particularly careful to bathe thoroughly with soap.

TREATMENT OF SYPHILIS

To the Editor:—We have in the hospital a patient with acquired syphilis of one year's duration previous to beginning treatments, and he has a 4 plus Wassermann reaction in spite of the treatments taken. The first course consisted of mercuric cyanide in the buttock, to the extent of tolerance, followed by a preparation of neo-arsphenamine, manufactured by Powers-Weightman-Rosengarten Company, with the trade name novarsenobenzol-Billon. Two months later a blood test revealed a 4 plus Wassermann reaction. We then treated him with alternate doses of mercurosal and neo-arsphenamine. Three months later he still had a 4 plus Wassermann reaction. The last course consisted of alternate doses of mercuric cyanide and neo-arsphenamine, together with a bismuth compound.

Charles E. Knowles, M.D., Midwest, Wyo.

Answer.—Syphilis of a year's standing before treatment is begun is not seldom difficult to bring under control, and it is not at all surprising that the case under discussion should fail to become seronegative after three courses of treatment. Details of the number and frequency of injections are not given by our correspondent. It is understood that they were suited to the constitution of the patient. The intervals between courses were somewhat too long. A month should be sufficient. Further treatment with sulpharsphenamine and a bismuth preparation is suggested. After the serum reaction has become negative, another regular course should be given, and the interval between courses cautiously lengthened.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

California: Los Angeles, March 8-11. Sec., Dr. Charles B. Pinkham, Room 906, Forum Bldg, Sacramento.

Colorado Denver, April 6. Sec, Dr. David A. Strickler, 612 Empire Bldg., Denver.

Connecticut: Hartford, March 9 10. Sec, Dr. Robert L. Rowley, 79 Elm St, Hartford Homeo Board, New Haven, March 9. Sec, Dr. Edwin C. M. Hall, 82 Grand Ave, New Haven.

Idaho: Boise, April 6. Commissioner of Law Enforcement, F. A. Jeter, Boise.

Illinois: Chicago, April 6-8 Supt. Regis., Mr. V. C. Michels, Springfield.

Maine. Portland, March 9-10 Sec, Dr. Adam P. Leighton, Jr, 192 State St., Portland.

Massachusetts. Boston, March 9-11. Sec, Dr. Frank M. Vaughan, 144 State House, Boston

Minnesota: Minneapolis, April 6 8. Sec, Dr. Thomas McDavitt, 734 Lowry Bldg., St. Paul.

Missouri: Jefferson City, March 9-11. Chief, Licensure, Dr. Ross Hopkins, Capitol Bldg, Jefferson City, Mo.

Montana: Helena, April 6 8. Sec., Dr. S. A. Cooney, Helena.

New Hampshire. Concord, March 11-12. Sec., Dr Charles Duncan, Concord

New Mexico: Santa Fe, April 12-13. Sec, Dr. W. T Joyner, Roswell.

Oklahoma: Oklahoma City, March 9-10. Sec, Dr. J. M. Byrum, Shawnee

Texas: Dallas, American Board of Otolaryngology, April 19. Sec, Dr. W. H. Loeb, 1402 South Grand Blvd., St. Louis, Mo.

THE NEW BUILDING OF THE ARMY MEDICAL SCHOOL

Although the Army Medical School was founded in 1893 by Surgeon General Sternberg, only recently has it moved into a home of its own. The present building of the Army Medical School was finished in 1923 at a cost of about $500,000. It is a unit of the new Army Medical Center, which is composed of the Walter Reed Hospital and other service schools, and eventually will include the Army Medical Library and Museum.

The building is of brick and limestone and is to consist of a central section about 50 feet long and 50 feet deep, and two wings about 100 feet long. The wings have a basement and three stories, while the central part of the building has four stories, So far, only the south wing has been built. Each floor has a central hall running nearly the length of the building. The first floor is occupied with administrative offices, library, and roentgen-ray section for instruction and practical work. The second floor has a lecture room and vaccine section, and a number of individual laboratories, including those of dental bacteriology and veterinary medicine. The vaccine section is an important part of the institution, as it produces and issues all the typhoid vaccine for the Army and Navy. The third floor has large bacteriologic and chemical laboratories capable of taking care of seventy-two men. The fourth floor is devoted to animals and photomicrography. The basement contains refrigerating and ventilating plants, lockers, printing and mimeograph rooms, shops, electrical controls, storerooms and the shipping department.

Courses of instruction are given for medical officers in basic and advanced work, and to enlisted men as technicians in roentgen-ray and laboratory work. The classes include veterinary and dental as well as medical officers.

Connecticut November Examination

Dr. Robert L. Rowley, secretary of the Connecticut Medical Examining Board, reports the written examination held at Hartford, Nov. 10-11, 1925. The examination covered 7 subjects and included 70 questions. An average of 75 per cent was required to pass. Of the 27 candidates examined, 18 passed and 8 failed. Twenty candidates, including 1 undergraduate, were licensed by endorsement of their credentials. The following colleges were represented:

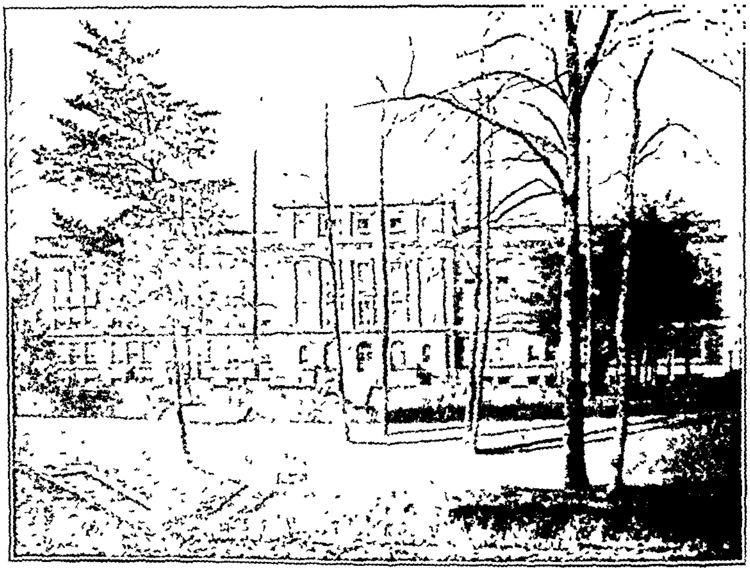
College PASSED	Year Grad.	Per Cent
Yale University School of [illegible]	[illegible]	76.6, 82.4
University of Maryland Sc[illegible]	[illegible]	83.6
Boston University School o[illegible]	[illegible]	75, 79.8
Harvard University	[illegible]	84.1
Tufts College Medical School	(1925)	78.9, 83.2
Columbia University College of Phys. and Surgs.	(1925)	89.1
[illegible] ollege	(1923)	84.7
[illegible]	[illegible]	77.5, 80
[illegible]	[illegible]	83.4
[illegible]	[illegible]	81.3
Comenian University, [illegible], Czechoslovakia (formerly Poszony, Pressburg)	(1923)*	80.9

College FAILED	Year Grad.	Per Cent
Boston University School of Medicine	(1925)	67.9
Tufts College Medical School	(1923)	57.6
Fordhan [illegible] Medicine	(1916)	70.8
McGill [illegible] Medicine	(1924)	†
Univers [illegible] Faculty	(1924)	68.8
Univers [illegible]	(1919)* 49.4, (1922)*	66
Donskey [illegible] Don, Russia	(1920)	66 2

College ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
University of Alabama School of Medicine	(1909)	Georgia
Yale University School of Medicine	(1924, 2)	New York, N. B. M. Ex.
Northwestern University Medical School	(1923)	Illinois
University of Illinois College of Phys. and Surgs.	(1924)	New York
Johns Hopkins University Medical Department	(1912)	New York
	(1917)	Maryland
	(1924)	N. B. M. Ex.
Harvard University	(1924)	N. B. M. Ex.
Tufts College Medical School	(1912), (1920), (1924)	Mass.
Columbia University College of Phys. and Surgs.	(1894)	Mass.
	(1905)	New York
Fordham University School of Medicine	(1914)	New York
University of the City of New York	(1892)	New York
University of Pennsylvania School of Medicine	(1922)	New Jersey
Meharry Medical College	(1916)	Georgia
Laval University Faculty of Medicine	(1908)	Arizona
Undergraduate		New York

* Verification of graduation not completed by the American Medical Association

† No grade given.



New building of Army Medical School.

Virginia December Examination

Dr. J. W. Preston, secretary of the Virginia Board of Medical Examiners, reports the written examination held at Richmond, Dec. 8-11, 1925. The examination covered 9 subjects and included 90 questions. An average of 75 per cent was required to pass. Fourteen candidates were examined, all of whom passed. Nine candidates were licensed by reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
George Washington Univ. Med. School	(1924) 88.5, (1925)	86.6, 91.3
Howard University School of Medicine	(1925)	76, 85.8
Johns Hopkins University Medical Department	(1915)	84
Meharry Medical College	(1925)	82.8
University of Tennessee College of Medicine	(1925)	82.3

Medical College of Virginia	(1925)	84.8
University of Virginia Department of Medicine	(1924) 81.7, 89.8, (1925) 86.6, 86.6, 86.9	

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
George Washin[illegible]	[illegible]	[illegible]
Howard Univer[illegible]	[illegible]	[illegible]
Johns Hopkins [illegible]	[illegible]	[illegible]
Harvard University	[illegible]	[illegible]
University of Cincinnati College of Medicine	(1923)	Ohio
Western Reserve University School of Medicine	(1924)	Ohio
Lincoln Memorial University Medical Department	(1914)	Tennessee
McGill University Faculty of Medicine	(1915)	New Jersey

ENDORSEMENT OF CREDENTIALS

College	Year Grad.	Endorsement with
State University of Iowa College of Homeo. Med.	*(1896)*	U. S. Navy

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Medical Economics

THE PHYSICIAN'S INCOME TAX—1926

The income tax provisions of the Revenue Act of 1926 became effective, Jan. 1, 1925. They make no change in the law as far as it relates specifically to physicians. The normal rate of tax under the new act is 1.5 per cent on the first $4,000 of net income in excess of the exemptions and credits, 3 per cent on the next $4,000, and 5 per cent on the remainder. Under the Revenue Act of 1924 the rates were 2, 4 and 6 per cent. The credit allowed on net earned income is the same as that allowed under the old act, 25 per cent.

A taxpayer whose gross income is under $5,000 and who is required to file a return, must do so on or before March 15. On gross incomes of $5,000 or more, the filing of the complete return may be deferred until May 15, *provided the taxpayer files a tentative return by March 15, accompanied by one fourth of the estimated tax.* Either the complete or tentative return must be filed by March 15 to avoid penalty. If a tentative return is filed, and when the complete return is filed the estimated initial instalment is found to be less than the amount that should have been paid, the taxpayer will be charged interest on the difference at the rate of 6 per cent per annum.

Full information concerning these and other matters of general interest appears on the official blank for returns, or can be obtained from collectors of internal revenue. The following discussion covers only matters relating specifically to the physician.

WHO MUST FILE RETURNS

1. Returns must be filed by every person having a *gross* income of $5,000 or more, regardless of the amount of his net income or his marital status. If the aggregate gross income of husband and wife, living together, was $5,000 or more, they must file a joint return or separate returns, regardless of the amounts of their joint or individual net incomes.

2. If *gross* income was less than $5,000, returns must be filed (*a*) by every unmarried person, and by every person married but not living with husband or wife, whose *net* income was $1,500 or more, and (*b*) by every married person, living with husband or wife, whose *net* income was $3,500 or more. If the aggregate net income of husband and wife, living together, was $3,500 or more, each may make a return or both unite in a joint return.

If the marital status of a taxpayer changed during the tax year, the amount of income necessary to bring him within the class required to make returns should be ascertained by inquiry of the local collector of internal revenue.

As a matter of courtesy only, blanks for returns are sent to taxpayers by the collectors of internal revenue, without request. Failure to receive a blank excuses no one from making a return; the taxpayer should obtain one from the local collector of internal revenue.

GROSS AND NET INCOMES: WHAT THEY ARE

Gross Income.—A physician's gross income is the total amount of money received by him during the year from professional work, regardless of the time when the services were rendered for which the money was paid, plus such money as he has received as profits from investments and speculation, and as compensation and profits from other sources.

Net Income.—Certain professional expenses and the expenses of carrying on any enterprise in which the physician may be engaged for gain may be subtracted as "deductions" from the gross income, to determine the net income on which the tax is to be paid. An "exemption" is allowed, the amount depending on the taxpayer's marital status during the tax year, as stated above. These matters are fully covered in the instructions on the tax return blanks.

Earned Income.—In view of the credit allowed on "earned" income, the physician should state accurately the amount of such income as distinguished from his receipts from other sources. "Earned" income means professional fees, salaries and wages received as compensation for personal services rendered. From this, in the computation of the tax, must be subtracted certain "earned income deductions." The difference is the "earned net income."

If the taxpayer's net income from all sources is not more than $5,000, this entire net income is considered as earned net income. If his entire net income is more than $5,000, he may claim credit for $5,000 of the total amount as earned net income, whether it was or was not in fact "earned" within the meaning of the term as defined in the preceding paragraph. But in no case shall the earned net income be considered to be more than $20,000.

The conditions relating to the computation of the tax on earned income are too elaborate to be stated here. In case of doubt, physicians should consult collectors of internal revenue.

DEDUCTIONS FOR PROFESSIONAL EXPENSES

A physician is entitled to deduct all current expenses necessary in carrying on his practice. The following statement shows what such deductible expenses are and how they are to be computed:

Office Rent.—Office rent is deductible. If a physician rents an office for professional purposes alone, the entire rent may be deducted. If he rents a building or apartment for use as a residence as well as for office purposes, he may deduct a part of the rental fairly proportionate to the amount of space used for professional purposes. If the physician occasionally sees a patient in his dwelling house or apartment, he may not, however, deduct any part of the rent of such house or apartment as professional expense; to entitle him to such a deduction he must have an office there, with regular office hours. If a physician owns the building in which his office is located, he cannot charge himself with "rent" and deduct the amount so charged.

Office Maintenance.—Expenditures for office maintenance, as for heating, lighting, telephone service and the services of attendants, are deductible.

Supplies.—Payments for supplies for professional use are deductible. Supplies may be fairly described as articles consumed in the using; for instance, dressings, clinical thermometers, drugs and chemicals. Professional journals may be classified as supplies, and the subscription price deducted. Amounts currently expended for books, furniture and professional instruments and equipment, "the useful life of which is short," may be deducted; but if such articles have a more or less permanent value, their purchase price is a capital expenditure and is not deductible.

Equipment.—Equipment comprises property of more or less permanent value. It may ultimately be used up, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed in the using"; rather, it wears out.

Payments for equipment or nonexpendable property for professional use cannot be deducted. As property of this class may be named automobiles, office furniture, medical, surgical and laboratory equipment of permanent value, and instruments and appliances constituting a part of the physician's professional outfit and to be used over a considerable period of time. Books of more or less permanent value are regarded as equipment, and the purchase price is therefore not deductible.

Although payments for equipment or nonexpendable articles cannot be deducted, yet from year to year there may be charged off against them reasonable amounts as depreciation. The amounts so charged off should be sufficient only to cover the lessened value of such property through obsolescence, ordinary wear and tear, or accidental injury. If improvement to offset obsolescence and wear and tear or injury has been made, and deduction for the cost claimed elsewhere in the return, no claim should be made for depreciation.

No hard and fast rule can be laid down as to the amount deductible each year as depreciation. Everything depends on the nature and extent of the property and on the use to which it is put. Five per cent a year has been suggested as a fair amount for depreciation on an ordinary medical library. Depreciation on an automobile would obviously be much greater. The proper allowance for depreciation of any property is that amount which should be set aside for the tax year in accordance with a reasonably consistent plan, not necessarily at a uniform rate, whereby the aggregate of the amounts so set aside, plus the salvage value, will at the end of the useful life of the property in the business equal the purchase price of the property or, if purchased before March, 1913, its estimated value as of that date or its original cost, whichever may be the greater. The physician must in good faith use his best judgment and make such allowance for depreciation as the facts justify. Physicians who, from year to year, claim deductions for depreciation on nonexpendable property will do well to make annual inventories, as of January 1, each year.

Medical Dues.—Dues paid to societies of a strictly professional character are deductible. Dues paid to social organizations, even though their membership is limited to physicians, are personal expenses and not deductible.

Postgraduate Study.—The Commissioner of Internal Revenue holds that the expense of postgraduate study is not deductible.

Traveling Expenses.—Traveling expenses necessary for professional visits to patients are deductible. The Commissioner of Internal Revenue, however, still holds that traveling expenses incident to attendance at meetings of medical societies are merely personal expenses and therefore not deductible. Physicians who have expended money for traveling expenses to attend meetings of medical societies should make no deduction for the amount so expended, in computing their income taxes under current schedules. They are advised, however, either to make a memorandum on their income tax returns or to file a memorandum with them, showing in detail the amount so expended. Such a memorandum should show that payment of the tax on that amount has been demanded by the Commissioner of Internal Revenue and is made solely by reason of that demand, under protest and under duress. The physician filing such a memorandum should retain a copy of it. In event of any reversal of the commissioner's ruling, physicians who have made such records can more easily substantiate their claims for repayment. A physician who deducts traveling expenses or the expenses of postgraduate study must expect to have such deduction disallowed. He will then be compelled to pay the tax on the disallowance, with interest, or to appeal to the Board of Tax Appeals and possibly to the courts. If he appeals, he will in the end have to abide by the result.

AUTOMOBILES

Payment for an automobile is a payment for permanent equipment, and is not deductible. The cost of operation and repair, and loss through depreciation, are deductible. The cost of operation and repair includes the cost of gasoline, oil, tires, insurance, repairs, garage rental (when the garage is not owned by the physician), chauffeurs' wages, etc.

Deductible loss through depreciation is the actual diminution in value resulting from obsolescence and use, and from accidental injury against which the physician is not insured. If depreciation is computed on the basis of the average loss during a series of years, the series must extend over the entire estimated life of the car, not merely over the period in which the car is in the possession of the present taxpayer.

If the automobile is used for professional and also for personal purposes—as when used by the physician for recreation, or used by his family—only so much of the expense as arises out of the use for professional purposes may be deducted. A physician doing an exclusive office practice and using his car merely to go to and from his office cannot deduct depreciation or operating expenses; he is regarded as using his car for his personal convenience and not as a means of gaining a livelihood.

What has been said with respect to automobiles applies with equal force to horses and vehicles and the equipment incident to their use.

MISCELLANEOUS

Laboratory Expenses.—The deductibility of the expenses of establishing and maintaining laboratories is determined by the same principles that determine the deductibility of other corresponding professional expenses. Laboratory rental and the expenses of laboratory equipment and supplies and of laboratory assistants are deductible when under corresponding circumstances they would be deductible if they related to a physician's office.

Losses by Fire, etc.—Loss of and damage to a physician's equipment by fire, theft or other cause, not compensated by insurance or otherwise recoverable, may be computed as a business expense, and is deductible, provided evidence of such loss or damage can be produced. Such loss or damage is deductible, however, only to the extent it has not been made good by repair and the cost of repair claimed as a deduction.

Insurance Premiums.—Premiums paid for insurance against professional losses are deductible. This includes insurance against damages for alleged malpractice, against liability for injuries by a physician's automobile while in use for professional purposes, and against loss from theft of professional equipment, and damage to or loss of professional equipment by fire or otherwise. Under professional equipment is to be included any automobile belonging to the physician and used for strictly professional purposes.

Expense in Defending Malpractice Suits.—Expenses incurred in the defense of a suit for malpractice are deductible as business expense. Expenses incurred in the defense of a criminal action, however, are not deductible.

Sale of Spectacles.—Oculists who furnish spectacles, etc., may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.

Book Notices

The Medical Department of the United States Army in the World War. Volume XV, Statistics. Part two, Medical and Casualty Statistics Based on the Medical Records of the United States Army April 1, 1917, to December 31, 1919, Inclusive. Prepared under the Direction of Maj. Gen. M. W. Ireland, the Surgeon General. By Major Albert G. Love, M. C., U. S. Army. Cloth. Price, $3. Pp. 1368, with illustrations. Washington: Government Printing Office, 1925.

The Surgeon General's Office has completed the compilation of statistics for the World War period, and published them as part two of volume fifteen of "The Medical Department of the U. S. Army in the World War." The volume is a credit to all who took part in its compilation. There was an editorial board of twenty-eight reserve officers from various parts of the country, and regular army officers, with Col. Charles Lynch as editor in chief until his retirement, and then Lieut. Col. Frank W. Weed. The amount of detail gathered here about millions of men in camp in various parts of the world in time of war, and the careful work necessary to obtain it, are almost incomprehensible. There is an introductory chapter which explains the methods of collecting these statistics. It appears that in January, 1919, the strength of the army in Europe reached its maximum with 1,698,879 officers and enlisted men, at which time there were in the United States 789,636 officers and enlisted men; in this table the size of the army at home and in Europe is shown by months throughout the war. Tables show the number of troops by race and by states; maps show the location of camps, and other tables give the number of troops in these camps by months. There are many pages of tables giving the number of men admitted to sick report and the cause. It is especially interesting to note the number of cases of influenza that occurred in each camp. There is shown the ratio of men discharged for disability by months, race and cause. The number of deaths with their causes, the number of admissions to sick report by camps and by states, and the number of deaths by camps and by states are indicated. There are special tables for the influenza epidemic, showing its progress by month, with the number of admissions, complicating diseases and deaths. Finally there are tables by regiments with the number of wounds by gas and by gunshot, and the number killed in action by month. The great value of this book is apparent; its usefulness will increase with the years.

A Synopsis of Medicine. By Henry Letheby Tidy, M.A., M.D., B.Ch., Assistant Physician to St. Thomas's Hospital. Fourth edition. Cloth. Price, $6. Pp. 1000. New York: William Wood & Co., 1925.

In the fourth edition of this medical synopsis—probably the most complete book of its type—the author has made a number of rather important alterations. The discovery and use of insulin have necessitated extensive changes in the chapter on diabetes, and the work of MacNee and the French investigators has been included in the section on jaundice. Among the other chapters that have been revised extensively are those on botulism, visceroptosis, primary purpura and acholuric jaundice. New chapters have been added on the blood diseases of childhood, thrombosis and embolism. The author should perhaps be criticized for failing to include the recent work of Caronia, Dochez and the Dicks on the etiology and serum treatment of scarlet fever. The book should be of great assistance to the student who is preparing for examinations, to the teacher who is preparing a lecture, and to the practitioner who wishes to revise quickly his knowledge of some particular disease. The author correctly points out the failure which must result when one attempts to make any "synopsis" replace a textbook.

Ernährung und Stoffwechselkrankheiten. Von Prof. Dr. Friedrich Umber, Aerztlicher Direktor des Krankhenhauses Westend. Third edition. Paper. Price, 39 marks. Pp. 672, with 67 illustrations. Berlin: Urban & Schwarzenberg, 1925.

This encyclopedic volume contains a tremendous amount of useful information written in a German style comparatively easy to read. The usual form of such volumes is adopted. The first chapter, devoted to foods and nutrition, is concise and is followed by detailed discussion of undernutrition and overnutrition, obesity, diabetes mellitus, the rarer disturbances in carbohydrate metabolism, diabetes insipidus, gout, nephrolithiasis, and disturbances in intermediary protein catabolism. Almost a hundred pages is devoted to Rosenberg's description of technic involved in metabolic examinations of urine, blood, stool and organs, chemical analysis of urinary stones and basal metabolism. One pleasing feature of the book is the constant clinical outlook. The few illustrations are well chosen. The references seem up to date, although, as is to be expected from continental sources, contributions other than from the native land do not receive the attention warranted by an international scientific outlook. The volume certainly deserves a place on the encyclopedia shelf of all interested in metabolism.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

Diagnostische und therapeutische Irrtümer und deren Verhütung innere Medizin. Herausgegeben von Prof. Dr. J. Schwalbe, Geh. San.-Rat in Berlin. Sechzehntes Heft. Die Krankheiten der Leber mit Einschlusz der hepatolienalen Affektionen. Von Professor Dr. H. Eppinger, Assistent an der I. Medizinischen Klinik, und Dozent Dr. P. Walzel, Assistent an der I. Chirurgischen Klinik Eiselsberg in Wien. Paper. Price, 7.20 marks. Pp. 134, with 10 illustrations. Leipsic: Georg Thieme, 1926.

Monograph on diseases of the liver, part of a German system of the practice of medicine.

Lehrbuch der Lokalanästhesie des Ohres und der oberen Luft- und Speisewege. Von Dr. Caesar Hirsch, Chefarzt der Abteilung fur Hals-, Nasen- und Ohrenkranke des Marienhospitals in Stuttgart Mit einem Vorwort von Professor Dr. O. Voss, Direktor der Universitäts-ohrenklinik in Frankfurt a. M. Paper. Pp. 293, with 104 illustrations. Stuttgart: Ferdinand Enke, 1925.

Handsomely illustrated monograph of interest—chiefly to otolaryngorhinologists.

The Stomach and Upper Alimentary Canal in Health and Disease. By T. Izod Bennett, M.D., M.R.C.P., Assistant Physician to the Middlesex Hospital. Cloth. Price, $6. Pp. 344, with illustrations. New York: William Wood & Co., 1925.

Monographic consideration by internist who prefers Sippy method of medical treatment.

Schistosomiasis vel Bilharziasis. By C. G. Kay Sharp, M.D., Fellow Royal Institute of Public Health. Cloth. Price, $2.75. Pp. 74. New York: William Wood & Co., 1925.

Outlines of schistosomiasis with system for mass study and treatment in schools.

La curiethérapie des cancers. Par Simone Laborde, Chef du laboratoire de radiumlogie au centre anticancéreux de Villejuif. Paper Price, 27 francs. Pp. 333, with 43 illustrations. Paris: Masson & Cie, 1925.

Radium therapy as practiced in a French cancer institute.

Abdominal Operations. By Sir Berkeley Moynihan. Fourth edition. Two volumes. Cloth. Price, $20 net. Pp. 1217, with 470 illustrations. Philadelphia: W. B. Saunders Company, 1926.

Fourth edition of a standard work by a facile writer.

Commonwealth Health Laboratories. By W. C. Sawers, D.S.O., M.B., B.S., Medical Officer, Division of Laboratories, Commonwealth Department of Health. Commonwealth of Australia, Department of Health. Service Publication No. 27. Pp. 101. Melbourne: H. J. Green, 1925.

Report of the Engineering Board of Review of the Sanitary District of Chicago on the Lake Lowering Controversy and a Program of Remedial Measures. Part III. Appendix I. Sewage Disposal. An appendix to accompany chapter IV of Part II. Pp. 254. Boston: Wright & Potter, 1925.

Transactions of the American Association of Genito-Urinary Surgeons. Thirty-seventh annual meeting, May 4-5, 1925, Washington, D. C. Volume 18. Pp. 517. Baltimore: Williams & Wilkins Company, 1925.

Report of the Provincial Committee of the National Baby Week, Bombay Presidency, 1925. Pp. 85. Bombay Presidency, 1925.

Miscellany

SOME INSECTS AND THEIR RELATION TO MAN*

It is impossible to estimate the effect that insect activity has had on the human race. The device that has saved the greatest number of lives is the ordinary fly and insect screen. Insects have overthrown dynasties and even blotted out whole countries or civilizations or reduced them from a position of commanding superiority to one of helpless subordination. Greece, Mesopotamia, Egypt, Macedonia, the Mayans, Rome, the civilizations of southern Arabia, Peru, Rhodesia, Ceylon, Java, Indo-China and India have suffered decadence; and often a humble and despised insect carrying malaria and other diseases has been the cause of the trouble.

It is not many years since the interior of Africa was an unknown wilderness. Within this country was an area in which the dreaded trypanosomiasis was present. Trade channels were opened up, and at present the infection has spread over at least one fourth of the continent and thousands of miles have become depopulated. It is hoped that the tsetse fly will never gain access to this continent.

The proof of the intelligence of a race is its ability to raise itself above and protect itself from an adverse environment. The average expectancy of male life in the United States is about 50.6 years and in Sweden is about 50.9 years. In India it is about 23 years, and it would be less if the population was greater or the birth rate was higher. The combination of insects, ignorance and insanitation is the explanation.

Under proper precautions, inhabitants of temperate regions may emigrate to the tropics and live there without manifest injury. This requires the avoidance of mosquitoes and other insects, the constant use of boiled water, and many other precautions which at times are somewhat irksome. Those who comprehend their importance are less likely to ignore them. Yellow fever used to be the curse of the tropical and semitropical western hemisphere. The medical department of the United States Army realized that the first step in the control of the disease was to learn the method of transmission, and accordingly work was begun under the direction of Drs. Reed, Carroll, Lazear and Agramonte. Volunteers were called for from the soldiers and officers of the medical department who were not immune to the disease. Those who lost their lives are entitled to all the honor that can come to any soldier who has fallen on the field of battle. As a result of this work we now know how to prevent the spread of yellow fever. It is the plan of the Rockefeller Foundation to destroy all foci of yellow fever and banish it from the face of the earth.

The diseases that are transmitted by mosquitoes are malaria, yellow fever, filariasis and dengue fever. The general rules to be followed with mosquitoes are to:

(*a*) Prevent so far as possible all mosquito propagation.

(*b*) Kill all mosquitoes possible of those which do breed.

(*c*) Keep habitations away from mosquitoes and mosquitoes away from habitations.

(*d*) Protect the sick from mosquitoes.

(*e*) Protect the well from mosquitoes.

It was the application of these rules that made the building of the Panama Canal possible and life there as safe as in the temperate zones.

With us, the common house fly without question is the most frequent transmitter of disease. There are also biting flies that are responsible for the spread of other diseases. Among the diseases carried by the domestic fly are typhoid, cholera, amebic dysentery, gangosa and oriental sore, or Bagdad boil. In the first four diseases the fly transmits the infection by carrying organisms from the discharges of the sick to the food of the well. These diseases may be transmitted by other means, but the fly is a common method. These four diseases have been the cause of countless deaths.

Obviously, it is desirable to accomplish the same ends with flies as with mosquitoes, though different methods are necessary. Screens are of course a necessity to prevent their access to the sick and the well and to food supplies. All infected discharges from the sick should be sterilized before being disposed of. Fly swatters, fly paper, fly poison and traps all have their places.

There are a number of cousins of the domestic fly that cause harm. Yaws, or frambesia, filariasis, tularemia, or deerfly fever, cutaneous tropical myiasis and trypanosomiasis are transmitted by them. Tularemia is accompanied with high fever and is carried by a horsefly.

There are three kinds of fleas: those which live on the rat, those which live on the dog and those which live on man. They prefer their particular host but, if compelled by hunger, will go to another. Fleas transmit bubonic plague and leishmaniasis, or dum-dum fever. A good description of an epidemic of bubonic plague is to be found in first Samuel, fifth and sixth chapters. The expiation required of the Philistines was that they return the Ark of the Covenant to the Israelites along with five golden emerods or images of the characteristic swellings of the disease and five golden mice (or rats), the basis of the disease. During the reign of Justinian it was responsible for as many as 10,000 deaths in one day in Constantinople.

The dog, cat, ferret and weasel are the natural enemies of the rat and may be used in the campaign against it. All dumps should be eliminated, all drains should be screened, all food supplies should be protected, and all places that might harbor the rat should be cleaned up. There are many suitable poisons. Fleas may wander back and forth to a certain extent from the dog to the rat and vice versa, and here is a possible complication that must be considered. It is easy enough to deflea a dog, but it may be equally easy for him to find others to take their places.

Lice are prolific transmitters of disease. The Buddhist religion, which has millions of followers, teaches that no animal life should be destroyed. The spectacle of a Buddhist priest engaged in picking "cooties" from his body and laying them gently on a stone from which they migrate back again gives a perfect demonstration of the word "futility." The diseases more commonly transmitted by lice are typhus fever, trench fever, and a form of relapsing fever.

Typhus fever is common throughout the world, but the last thirty years has seen little of it in the United States, though it still is present in Mexico. The means employed of getting rid of "cooties" are known to every member of the American Expeditionary Forces. The tick is not a very common insect in settled parts of the United States, but is at times exceedingly pernicious. Rocky Mountain spotted fever is prevalent in certain parts of Wyoming and Idaho, and in the former state is accompanied by a mortality of from 75 to 90 per cent. In Idaho it is not nearly so fatal. The tick transmits this disease from squirrels and rats to man. The East and West African and the Persian types of relapsing fever are also transmitted by a tick.

The bedbug is responsible for the transmission of the European type of relapsing fever, which is found especially in Russia. There are other diseases for which insects are responsible, but those detailed are the more important ones. There is a certain beneficent effect which results to the human race from the possibilities of epidemics, plague and transmissible diseases. When any collection of people or any country so far degenerates as to lose all desire for cleanliness and hygiene and proper living and subsists in dirt and filth, it is only a question of time until an epidemic comes along and kills it off.

There is an old saying that "virtue is its own reward." One could well say that cleanliness has a much greater reward in the way of health and longer life and happiness.

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* Abstract of address read before the Insecticide and Disinfectant Manufacturers Association, Hotel Astor, New York, Dec. 15, 1925, by M. A. Reasoner, M.D., Major, Medical Corps, U. S. Army.

Medicolegal

Connecticut Law and the Revocation of Certificates

(Brein v. Connecticut Eclectic Examining Board et al. (Conn.), 130 Atl. R. 289)

The Supreme Court of Errors of Connecticut, in holding that there was no error in a judgment which dismissed the plaintiff's petition to review the action of the Connecticut eclectic examining board and the state board of health in revoking his license to practice medicine in that state, says that, under the Connecticut law no person, not holding a certificate of registration issued by the state board of health, may practice the profession of medicine and surgery in the state. It has been the policy of the general assembly to leave the examination and approval of applicants for such certificates to committees of the several state medical societies representing different schools of practice, subject to the conditions prescribed in Sections 2855-57 of the general statutes of the state, and to authorize the state board to issue a certificate of registration on due notice from one of such examining committees that the applicant has passed the required examination and is otherwise qualified. No independent investigation of the merits of the applicant is required either by the state board of health or any other state authority. Such a policy throws a heavy burden of responsibility on the examining committees of the several state medical societies, for while some of these societies, at least, have their grievance committees for the discipline and possible expulsion of offending members, such committees are not clothed with statutory authority to require the attendance of witnesses.

Perhaps the most fundamentally essential requisite for admission to a profession whose practitioners are necessarily brought into a close fiduciary relation to their patients is that the applicant should be of good moral character, and no more conclusive evidence of utter unfitness to practice medicine can be imagined than proof that the applicant procured by fraud the certificate of registration which admits him to practice.

It is quite true that the issuance of the certificate confers on its possessor a special privilege, whose value cannot be measured in money alone, and of which he cannot justly be deprived without due notice and full opportunity to be heard. On the other hand, since the examining committee of each school of medicine is charged by law with the sole responsibility of approving the fitness of applicants to practice according to its tenets, the subsequent unanimous withdrawal of such approval is an act of great significance; and when the reason given for such withdrawal is that the approval of the applicant's fitness by the committee was procured by fraud, the action of the committee is equivalent to an authoritative declaration that its original approval, which is the statutory condition precedent for the issuance of the certificate, was never truly and in reality given, and that the statutory precautions for the public health and welfare have been evaded. The situation thus developed is one so imminently dangerous to the public health and welfare that the general assembly has authorized the board of health summarily to revoke the certificate. But the revocation is provisional, and not final, for Section 2860 of the general statutes provides for an appeal to the superior court, where the matter may be reexamined de novo (anew), "which court may grant the proper relief."

The supreme court of errors is unable to perceive that any constitutional rights of the plaintiff had been violated by this method of procedure. He elected to appeal from the doings of the state board of health to the superior court, where he had his day in court and was found guilty of having procured his certificate of registration by fraud. He contended that, although the statute does not authorize, much less require, the eclectic examining board to give any notice or hold any preliminary hearing before requesting the board of health to revoke a certificate of registration, such provisions must be read into the statute by construction. But the court thinks not. As to the right to a hearing, the accepted rule is that one hearing before judgment, if conducted in accordance with the fundamentals of judicial procedure, satisfies the constitutional requirement. The receipt of the notice of revocation by the board of health conferred an immediate right of appeal, which, being pursued, gave the plaintiff the hearing before judgment to which he was entitled. Indeed, it was enough that it gave him the opportunity to be heard. The requirement of section 2859 of the general statutes that the revocation of a certificate of registration should be on the written request of all the members of the examining board was satisfied when the request was signed by four members of the board, when a vacancy caused by the death of the fifth member had not then been filled.

Allowing for Future Medical Treatment

(Halley v. Federal Truck Co. (Mo.), 274 S. W. R. 507)

The St. Louis Court of Appeals, in affirming a judgment in favor of the plaintiff for $5,000 damages for personal injuries, says that the defendant contended that the plaintiff's instruction on the measure of damages was erroneous for the reason that it permitted a recovery for such medical treatment as the jury might find that the plaintiff "will in the future be required to have." It was argued that there was a total failure of proof as to such special damage; but this court is of the opinion that there was substantial testimony on which that part of the instruction in question could rest. The evidence was undisputed that the plaintiff had only light perception in his left eye, that the retina was detached on one side, that this condition was permanent, and that at the time of the trial of the case—almost fourteen months after the date of his injury—whenever the plaintiff became warm at his work he experienced a severe pain in his left eye, and his right eye would "flood up" so that it was impossible for him to see "for a little bit" out of it. The question as to whether or not future medical attention would be required under such circumstances was properly left to the common sense, consciences, experience and judgment of the jury, for no evidence could have been introduced by which that fact could have been proved to an absolute certainty. It has been held that future expenses for medical attention rest on the same grounds as the probable loss of future earnings, and that if a defendant wishes to limit the amount of recovery for future medical services, he should test out his right to do so by asking an appropriate instruction.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, *Dallas, April 19-23.* Dr Olin West, 535 N. Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Mobile, April 27-30 Dr D. L. Cannon, 519 Dexter Avenue, Montgomery, Assistant Secretary
American Association for the Study of Allergy, Dallas, April 20. Dr A H Rowe, 242 Moss Avenue, Oakland, Calif, Secretary.
American Association of Pathologists and Bacteriologists, Albany, New York, April 2 3 Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary
American Orthopedic Association, Atlanta, April 26 28 Dr. De Forest P Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Proctologic *Society, Indianapolis. April 16-17. Dr. William A.* Rolfe, 331 Beacon Street, *Boston,* Secretary.
American Society of Clinical Pathologists, Dallas, *April 15-17.* Dr. Ward T Burdick, Metropolitan Building, Denver, Colo, Secretary.
Arizona Medica[illegible] [illegible], Gl[illegible] A[illegible] 25-27. Dr. D F. Harbridge, 407 Goodrich [illegible] [illegible]ry
California Medic[illegible] [illegible] April 26 May 1. *Dr. Emma W.* Pope, 593 Ma[illegible] [illegible] Secretary.
Hawaii Territorial *Medical Association, Honolulu, April 25 28. Dr. F. J.* Pinkerton, 46 Young Building, Honolulu, Secretary
Louisiana State Medical Society, Monroe, April 15 17. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.
Maryland, *Medical and Chirurgical Faculty of, Baltimore, April 27-29* Dr J A Chatard, 1211 Cathedral Street, Baltimore, Secretary.
Medical Women's National *Association, Dallas, April 18 19 Dr. Lena K* Sadler, 533 Diversey Parkway, Chicago, Secretary
New York, Medical Society of the State of, New York City, *March 29* April 1 Dr D S Dougherty, 17 W 43d St, New York City, Sec'y
Oregon State Medical Society, *Portland, April 1 2. Dr. F. D. Stricker,* Medical Arts Building, Portland, Secretary
South Carolina Medical Association, Sumter, April 6 8. Dr. E. A. Hines, Seneca, Secretary

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days No foreign journals are available prior to 1920, nor domestic prior to 1923 Periodicals published by the American Medical Association are not available for lending, but may be supplied on order Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested)

Titles marked with an asterisk (*) are abstracted below

American Journal of Anatomy, Philadelphia

36: 399 490 (Jan) 1926

Postnatal Growth of Kidney, Number and Size of Glomeruli (Albino Rat) M Arataki, Philadelphia —p 399
*Compensatory Enlargement of Surviving Kidney After Unilateral Nephrectomy. M Arataki Philadelphia —p 437
Embryogenesis of Human Bile Capillaries and Ducts W Bloom, Chicago —p 451
Placentation of Platyrrhine Monkey (Ateles Geoffroyi) G B Wislocki, Baltimore —p 467

Growth of Remaining Kidney After Nephrectomy.—After experimental unilateral nephrectomy, Arataki says, the surviving kidney became enlarged The enlargement is mainly due to the hypertrophy of glomerular unit systems, and in this hypertrophy the lengthening of the convoluted and collecting tubules plays an important part, but it is also due to the hyperplasia of the supporting tissue and in some measure to both the hypertrophy and the hyperplasia of the cells lining the tubules

Annals of Otology, Rhinology and Laryngology, St. Louis

39 1013 1308 (Dec) 1925

Facts of Audition I H Jones and V O Knudsen, Los Angeles —p 1013
Cysts in Floor of Mouth O J Stein, Chicago —p 1028
Results in Radical Mastoid Operations as to Hearing P Hammond, Boston —p 1043
Vaccines from Hemolytic Cocci in Spheno Ethmoidal Disease R A Fenton, Portland, Ore —p 1051
Prevention of Chronic Middle Ear Suppuration G W Mackenzie, Philadelphia —p 1068
Intranasal and External Methods of Operating on Ethmoid Cells R H Skillern, Philadelphia —p 1077
Diagnosis of Lateral Sinus Thrombosis C C Eves, Philadelphia —p 1082
Diagnosis and Treatment of Atopic Coryza (Perennial Hay Fever) W C Spain, New York —p 1089
Relation of Tonsil Infection to Nephritis in Children O L Thorburn, Iowa City —p 1096
Status of So Called Middle Turbinate J A Pratt Minneapolis —p 1105
Three Cases of Otitic Brain Abscess S Mac C Smith Philadelphia —p 1109
Therapeutic and Prophylactic Value of Tonsillectomy in Active Stage of Vincent's Angina S B Westlake, St Louis —p 1121
Malignancy of External Nose Case of Roentgen Ray Origin R A Barlow, Madison, Wis —p 1150
Translucent Normal Ear Drums M Metzenbaum, Cleveland —p 1159
Otolaryngology in Relation to General Medicine Cases of Scurvy and Bronchiectasis B R Shurly, Detroit —p 1173
Insulin in Diabetes with Mastoiditis T C Galloway, Evanston, Ill —p 1184
Repeated Coryzas Prophylaxis and Treatment Butte, Mont —p 1192
Extranasal vs Intranasal Operation for Chronic, Suppurative Frontal Sinusitis F Stauffer, Salt Lake City —p 1206
Optic Canal in Optic Atrophy L E White, Boston —p 1210
Problem of Middle Ear Mechanics III Binaural Acuity for Air and Bone Transmitted Sound Under Varying Conditions in External Auditory Canal A G Pohlman and F W Kranz, Geneva, Ill —p 1224
Cholesteatoma of Middle Ear F R Nager, Zurich, Switzerland —p 1249
Orbital Cellulitis Complicating Paranasal Sinus Disease in Children: Cases T R Gittins, Sioux City, Iowa —p 1259

Archives of Dermatology and Syphilology, Chicago

13: 1 136 (Jan) 1926

Dermatologic Quackery H Fox, New York —p 1
'Keratodermie Blennorrhagique' (Vidal) Case C B Willmott, Louisville, Ky —p 17
Histopathology of Syphilitic Hypoplasia of Teeth L J Karnosh, Cleveland —p 25
*Gold Compounds in Treatment of Experimental Tuberculosis of Skin in Animals J F Schamberg, M J Harkins and H Brown, Philadelphia —p 43
Ulcus Vulvae Acutum (Lipschütz): Case C W Finnerud, Chicago —p 55
*Madura Foot (Mycetoma) Black Grain Variety in Native American J A Gammel, H Miskdjian and H S Thatcher, Cleveland —p 66
Xanthoma with Erythema Telangiectodes and Parapsoriasis S S Greenbaum Philadelphia —p 78
*Ichthyosis Congenita Unusual Complications L B Kingery, Portland, Ore —p 90
Psoriasis in Full Blooded Negro M B Parounagina, New York —p 106
Salicin Treatment of Psoriasis G Pernet, London —p 111
So Called Herxheimer Reactions K Herxheimer and H Martin, Frankfort on the Main, Germany —p 115

Gold Therapy in Tuberculosis.—While no absolute deductions can be drawn from the experiments reported by Schamberg et al, the authors believe, however, that they indicate that a favorable, though not curative, influence is induced by gold therapy in tuberculosis.

Madura Foot in Native American.—Gammel et al report a case of infection with the granuloma maduromycosis (mycetoma) in a native American (Mexican) from Texas This is the twenty-first case reported from the United States and the eleventh from Texas The infection was of the black grain variety—the first thus far reported in a native American and the second black grain infection reported on the North American continent All attempts at animal inoculations were negative—using monkeys (*Macacus rhesus*), rabbits, guinea-pigs, white rats, white mice and pigeons Cultural experiments thus far carried out lead the authors to classify the causative organism with the madurella group (Brumpt), and because of its characteristics as a new species which they would term *Madurella americana*

Congenital Ichthyosis and Colloidal Skin—Kingery reports a case which includes clinical characteristics both of ichthyosis congenita and so called "colloidal skin" Such a clinical combination is said not hitherto to have been recorded, and definite cases of colloidal skin are practically wanting in American literature The existence of the epitrichium in certain mammals and the presence of its analogy in human embryos would suggest the possibility of the persistence of this membrane as a partial explanation of the foregoing picture The rôle played by the endocrine glands or their interrelation in the production of such cutaneous anomalies is suggested

Archives of Neurology and Psychiatry, Chicago

15: 1 150 (Jan) 1926

*Neuron Dest[illegible] in Postencephalitic Paralysis Agitans J C McKinley, Minn[illegible] L R Gowan, Duluth, Minn —p 1
Cere[illegible]oms Induced by Angioneurotic Edema: Three Cases F [illegible] New York —p 28
*Tric[illegible] Encephalitis G B Hassin and I B Diamond, Chicago —[illegible] 4
Differential Diagnosis Between Cerebral Degeneration, Infiltrating Cerebral Neoplasm and Infiltrating Cerebral Neoplasm with Degeneration H A Riley and C A Elsberg, New York —p 48
*Brain Repair R B Wilson Boston —p 75
Hypophysial Fat Dystrophy with Hyperglycemia and Glycosuria Case S Shapiro and M G Klatshco New York —p 85
*Roentgen Ray Treatment of Pituitary Tumors F B Towne, San Francisco —p 92
Amyostatic Syndrome of Epidemic Encephalitis Blood Sugar Tolerance Studies T Raphael, O M Searle and W G Ferguson, Ann Arbor, Mich —p 103
Thrombosis of Rolandic Vein Case C E Dowman, Atlanta, Ga —p 110

Pathology of Postencephalitic Paralysis Agitans.—In two additional cases of postencephalitic paralysis agitans studied by ordinary histologic methods, minimal changes of the globus pallidus but massive lesions of the substantia nigra were found by McKinley and Gowan Scattered lesions found in other parts of the brain were insignificant These two cases and a previously reported case have been studied by micrometric methods in order to evaluate quantitatively the amount of cell destruction in the lenticular region and substantia nigra No decrease in the number of cells in the putamen or globus pallidus could be demonstrated An average decrease in the number of neurons of from 58 per cent to 87 per cent occurred in the substantia nigra in the three cases From these data it appears that the syndrome of paralysis agitans may occur without a significant lesion in the globus pallidus, though this is not intended to mean that the globus pallidus never plays a rôle in parkinsonism

The destruction in the substantia nigra seems to be the essential factor in the production of the syndrome, at least in the three cases presented.

Trichinosis Encephalitis.—The case recorded by Hassin and Diamond is said to be the second in the literature in which the invasion of the brain by trichina larvae has been demonstrated, together with its effect on the central nervous system.

Brain Repair.—The reaction produced in two general paralytic brains by punctures with sterile needles for the purpose of introducing arsphenaminized serum into the ventricles is described by Wilson. The first patient received one puncture six days before death; the second received six punctures at intervals of from seven to eleven and a half months before death. The trephine openings were made over the right second frontal convolutions. It appears that the brain is not damaged by injecting arsphenaminized serum into the ventricles except by the needle itself. Observations in these cases are in keeping with previous reports that repair is *accomplished by connective tissue elements.*

Roentgenotherapy of Pituitary Tumors.—Towne reports two cases which, after periods of more than three and two years, respectively, of roentgen-ray treatment, remain free from the effects of intracranial extension of pituitary adenomas. The visual fields and visual acuity returned to normal following cross-fire treatment with one third of a maximum skin dose of roentgen rays once a month. No recurrence has taken place up to the present time, three and one fourth and two years, *respectively, after the treatments* were started. In the first case, a partial external ophthalmoplegia disappeared promptly, *and measurable decrease in the size of the large intracranial* extension of the tumor was demonstrated by shifting of areas of calcification in roentgenograms taken before, and two and a half years after, the institution of treatment.

Archives of Ophthalmology, New Rochelle, N. Y.

55: 1-102 (Jan.) 1926

Clinical Value of Optic Canal Roentgenograms. H. A. Goalwin, New York.—p. 1.
Ocular Symptoms of Erythremia (Chronic Polycythemia Vera). G. E. de Schweinitz, Philadelphia, and A. C. Woods, Baltimore.—p. 21.
Glaucoma in Myopic Eyes. A. Knapp, New York.—p. 35.
Separation of Choroid: Spontaneous Case. F. H. Verhoeff and J. H. Waife, Boston.—p. 38.
Ophthalmoplegia Internuclearis: Case. E. B. Dunphy, Boston.—p. 54.
Percentage Value of Vision: Snellen Notation. J. A. C. Gabriels, Albany.—p. 58.
Convention of *English Speaking* Ophthalmological Societies. H. Dickinson, *London.*—p. 64.

Archives of Pathology and Laboratory Medicine, Chicago

1: 1-168 (Jan.) 1926

*Intercellular Substances in Experimental Scorbutus. S. B. Wolbach and P. R. Howe, Boston.—p. 1.
*Amyloidosis *Produced by Injections of Proteins.* R. *H. Jaffe,* Chicago.—p. 25.
**Hypernephroma of Thyroid.* A. Kolodny, Iowa City.—p. 37.
Rôle of Endothelium in Production of Polyblasts (Mononuclear Wandering Cells) in Inflammation. F. J. Lang, Chicago.—p. 41.
*So-Called Acrodynia or Erythredema (Swift's Disease). A. S. Warthin, Ann Arbor, Mich.—p. 64.
*Fat Replacement of Glycogen in *Liver as Cause of Death. E. R.* Le Count and H. A. Singer, Chicago.—p. 84.
William Wood Gerhard Gold Medal of Philadelphia Pathological Society. E. B. Krumbhaar, Philadelphia.—p.. 90.
Control Method in Staining Smears for Tubercle Bacilli. H. J. Corper, Denver.—p. 93.
Relation of Atopic Hypersensitiveness (Hay-Fever, Asthma) to Anaphylaxis. *A. F. Coca, New York.—p. 96.*

Intercellular Substances in Experimental Scorbutus.—The morphologic concomitants of the condition of complete scorbutus and the immediate responses in repair are described by Wolbach and Howe. Their work establishes the hypothesis of Aschoff and Koch and confirms some of the observations of Höjer. They advance the theory that the failure of cells to produce intercellular substance in scorbutus is due to the absence of an agent common to all supporting tissues, which is responsible for the setting or jelling of a liquid product. Antiscorbutic substance is liberated in the destruction of tissues. The *osteoporosis suggests,* further, the hypothesis that this reaction is in some degree a reversible one.

Proteins Cause Experimental Amyloidosis.—By means of intramuscular injections of nutrose or serum given over a certain period of time, Jaffe was able to produce amyloid degeneration in mice. The conclusion is drawn that this amyloidosis results from an acquired hypersensitiveness to the injected substance. After more than seventy injections the amyloidosis becomes most extensive, even the valves of the heart being affected. *An endothelial resorption of the amyloid* finally takes place in the liver, even though the injections are continued.

Hypernephroma of Thyroid.—Statistics based on a study of 74,335 necropsies show that one case of malignant tumor of the thyroid is found in about 385 necropsies. The largest majority of malignant tumors of the thyroid seem to be of a primary character. A metastatic involvement of the thyroid is rather a curiosity. Among all malignant tumors giving rise to metastases in the thyroid, hypernephroma is the rarest. Kolodny asserts that from the world literature only one case of a metastatic involvement of the thyroid by hypernephroma is known. It occurred in a patient, aged 74, with a bilateral hypernephroma of the kidneys. He reports a case occurring in a woman, aged 68. A most careful general examination *of the patient and roentgenoscopy of the skeleton did not* help in the search for the primary tumor. After lobectomy, *the patient improved markedly, and there does not seem to be* any evidence of a recurrence of the tumor in the thyroid eleven months after the lobectomy.

Swift's Disease; Acrodynia; Erythredema.—Two clinically typical cases of "acrodynia" or "erythredema" which came to necropsy are reported by Warthin. The essential pathologic changes in these two cases were: extreme edema and slight *meningeal irritation of the central nervous system, chronic* erythma of the skin with hyperkeratosis, hypertrophy of the epidermis and sweat glands, with *slight pigmentation of the* rete, occurring in children of the hypoplastic lymphatic constitution, with associated or terminal respiratory infections *and gastro-intestinal catarrh* and inanition. These two cases do not support the theory of a polyneuritis as the essential feature of the disease; neither do they justify the use of the term "erythredema" as a fitting designation, as they showed no edema of the corium. They do not present any evidence as to a specific infectious etiology; they likewise show no relationship between tonsillar disease and the syndrome. The changes in the skin and central nervous system suggested *the pathologic change of the early erythema stage of pellagra.* The changes in the skin are also identical with those seen *in certain forms of light sensitization,* xeroderma and fagopyrism. They are also identical with certain stages of roentgen ray and ultraviolet ray erythemas. The entire anatomic picture in these two cases suggests either a food deficiency or a toxic state action on persons of the hypoplastic constitution, affecting the reticulo-endothelial system of meninges and skin, the vegetative nervous system and possibly leading to a light sensitization.

Fatty Liver as Cause of Death.—Le Count and Singer state that with *an extensive replacement of the liver by fat* in persons who drink heavily of alcoholic beverages death *may be entirely unexpected and abrupt* and with few symptoms of illness. In postmortem examinations of such persons, little else than a large fatty liver may be found to explain death.

Archives of Surgery, Chicago

2: 649-808 (Nov.) 1925

*Experimental Hydronephrosis: Effect of Changes in Blood Pressure and in Blood Flow on Rate of Development. I. F. Hinman, *San Francisco,* and A. B. Helper, Seattle, Wash.—p. 649.
*Roentgen-Ray Study of Injected Knee Joint. R. Colp and P. Klingenstein, New York.—p. 660.
Hirschsprung's *Disease, or* Congenital Megacolon: Case. O. Hofmann and *G. H. Ewell, Kansas City,* Mo.—*p. 674.*
Adenomyoma of Umbilicus: Case. C. R. Edwards and H. R. Spencer, Baltimore.—p. 684.
*Relation *of* Bone Marrow to Lymphatic *System:* Rôle in Spreading of Carcinomatous Metastases Throughout Skeleton. A. Kolodny, Iowa City.—p. 690.
Local Atrophy as Anomaly of Bone Metabolism. J. Ferber, New York.—p. 705.
*Accessory Lobes of Liver: Case. T. S. Cullen, Baltimore.—p. 718.

Congenital Deficiency of Pericardium. R. L. Moore, Boston.—p. 765.
*Effect of Magnesium Sulphate on Cerebrospinal Fluid Pressure and Brain Volume. E. J. Morrissey, Richmond, Va.—p. 778.
*Gastrojejunocolic Fistulas. J. Verbrugge, Rochester, Minn.—p. 790.

Experimental Hydronephrosis.—Hinman and Helper found it possible to reduce urinary secretion by a properly placed, partially obstructing rubber tube on the renal artery. When this procedure is combined with total ligation of the ureter on the same side, hydronephrosis develops to a much greater degree and more rapidly than when the ureter alone is ligated. This increase in the rate of development of hydronephrotic atrophy in the presence of a reduced secretory pressure and oliguria indicates that back pressure and pressure atrophy have not quite the importance generally given but that another factor, a nutritional one, is an equally or more determining one.

Study of Injected Knee Joint.—In an effort to determine the relationships of the bursae to the joint cavity, the femur and the tibia, especially during flexion and extension of the knee, a roentgenologic investigation of 100 injected knee joints was undertaken by Colp and Klingenstein. With the knee extended, the joints usually perforated when they were distended beyond a capacity of 100 cc., the injected mixture escaping through an opening in the apex of the suprapatellar bursa and diffusing upward along the femur beneath the crureus muscle. A distended joint, when it was forcibly flexed, perforated through the posterior condylar prolongations of the synovial membranes into the popliteal space running upward and downward in the manner of a collar button abscess, the area being increased by active motion of the joint. These anatomic facts have a wide and important practical application. In operative procedures around the lower end of the femur, especially in infective processes, the knee joint can be avoided by attacking the focus laterally and as far posteriorly as possible. In this way, the primary incision may be deepened until the periosteum is reached, and this may be stripped mesially without entering the joint, care being taken to avoid the femoral vessels. In inserting Steinmann's nails or tongs for skeletal traction in fractures of the femur, the relationship of these bursae should always be borne in mind in order to avoid entering the joint. Compound fractures in this region, within from 10 to 12 cm. of the joint line may enter the suprapatellar bursa.

Relation of Bone Marrow to Lymphatic System.—The bone marrow is directly related to the lymphatic system. It drains its lymph into certain groups of lymph nodes, the regional lymph nodes of the respective bone. The direct relationship existing between the bone marrow and the lymphatic system, Kolodny says, forms the anatomic basis for the lymphogenous theory of metastasizing of carcinomatous tumors to the bones. Deviations from the normal in the flow of lymph, namely, the aberration of the lymph stream, the retrograde lymph stream and the reflux lymph flow, can lead to the metastatic spreading through the skeleton of carcinomatous cells transported in the lymph circulation from the primary tumor.

Accessory Lobes of Liver.—Cullen reports a case of accessory hepatic lobe, springing from the surface of the gallbladder, and reviews the literature.

Effect of Magnesium Sulphate on Cerebrospinal Fluid Pressure.—Experiments conducted by Morrissey for the purpose of determining the effects of magnesium sulphate on intracranial pressure showed that, in man, 45 Gm. of magnesium sulphate crystals by mouth does not cause a drop in cerebrospinal fluid pressure in two hours. In experimental animals, a rise of pressure is noted, following the opening of the abdomen and manipulation of the intestines, but this rise quickly disappears when the intestines are replaced and the abdomen is closed. A slight fall in intracranial pressure was noted in a few animals over a fairly long period of observation. This fall in intracranial pressure coincides with a continuing fall of blood pressure. Apparently, brain volume is not changed in forty minutes following the injection of a large amount of magnesium sulphate into the small intestine. It appears that the brain tissue is subjected to the same dehydrating effects of magnesium sulphate, when injected into the intestine, as the other tissues of the body. The experiments show that hypertonic sodium chloride solution given intravenously has an effective action in reducing intracranial pressure.

Gastrojejunocolic Fistulas.—Twenty-one cases of gastrojejunocolic fistulas have been observed at the Mayo Clinic; two were associated with a carcinoma of the colon, and nineteen were the result of a gastrojejunal ulcer which developed after posterior gastro-enterostomy. All the patients were males. The etiologic factor, in the second group, was a duodenal ulcer in sixteen cases, gastric ulcer in one, atony of the stomach in one, and, in the remaining case, the primary disease was not known.

Arkansas Medical Society Journal, Little Rock

22: 173-202 (Jan.) 1926

Appendicitis: Plea for Early Operation. E. H. Hunt, Clarksville.—p. 173.
Dozen Don'ts for Doctor. J. W. Scales, Pine Bluff.—p. 179.
Sodium Citrate in Treatment of Pneumonia. S. C. Grant, Mulberry and W. G. Weaver, New Orleans.—p. 180.
Tonsil Problem. R. C. Kory, Little Rock.—p. 184.

Boston Medical and Surgical Journal

194: 1-42 (Jan. 7) 1926

Rope Grafts F. H. Lahey, Boston.—p. 1.
Kahn and Wassermann Reactions. W. A. Hinton, Boston.—p. 5.
Treatment of Eclampsia. S. Berman, Boston.—p. 7.

194: 43-90 (Jan. 14) 1926

*Chronic Nephritis Produced by Roentgen Rays. J. P. O'Hare, H. Altnow, T. D. Christian, Jr., A. W. Calhoun and M. C. Sosman, Boston.—p. 43.
*Study of Twenty-Six Cases of Diabetes. H. F. Root and S. Warren, Boston.—p 45.
*Differential Diagnosis of Lateral Sinus Infection. G. L. Tobey, Jr., Boston —p 53.
Corn Kernel in Bronchus. L. Richards, Boston.—p. 57.
Massive Atelectasis of Lung as Surgical Complication. E. L. Hunt, Worcester —p. 58.

Roentgen Ray Produces Experimental Nephritis.—O'Hare et al. have succeeded in producing in laboratory animals a progressive sclerosis of the kidney of marked degree and under controlled conditions by exposing the kidney to roentgen-ray irradiation.

Cause of Death in Diabetes Mellitus.—The causes of death in twenty-two of the twenty-six cases of diabetes analyzed by Root and Warren were complications of diabetes rather than the disease itself. Arteriosclerosis was present in twenty cases. Gangrene occurred in seven. Coronary sclerosis and myocarditis were present in eleven cases. Vascular disease was more closely related to the duration of diabetes than to the age at onset of the disease. Cholelithiasis and cholecystitis occurred in 32 per cent of the patients over 25 years of age. Thirteen cases showed hyalinization of the islands of Langerhans. Only one of these patients was under 45. Five showed varying degrees of sclerosis of the islands. In three cases there was slight lymphocytic infiltration about scattered islands, and the islands in five cases appeared normal, though decreased in number in two of the five. Apparently normal islands are present in all diabetic pancreases examined, no matter how badly damaged the bulk of the islands may be. In two patients, insulin treated for more than five months, there seemed to be more islands of normal appearance than in patients under dietary treatment alone. The character of the lesions in the islands of Langerhans suggests a toxic origin acting over a long period of time or a prolonged functional strain. In hemochromatosis there is definite evidence of regeneration of both the acinar tissue and island tissue of the pancreas. The type of diabetes in hemochromatosis is the same as that in diabetes mellitus. The increased fibrous tissue found in certain pancreases in diabetes is due to destruction of island or acinar cells or both, with persistence and condensation of their stroma. The parenchymal tissue regenerates and forms new stroma, with resulting increase in connective tissue. The acinar tissue of the pancreas does not show evidence of increased fibrosis in cases of diabetes of short duration. Analyses of the insulin content of various tissues are presented. The influence of increased blood lipoids, especially cholesterol, on vascular disease and cholelithiasis is suggested.

Lateral Sinus Infection.—When, during the course of an aural infection, there is evidence of sepsis, Tobey says infection of the lateral sinus or jugular bulb must be considered. Evident sepsis being present and a careful differential diagnosis having excluded all other sources, ligation of the jugular and exploration of the lateral sinus is indicated. When obstruction of the lateral sinus, jugular bulb, or internal jugular vein occurs, block may be demonstrated by dynamic studies of the cerebrospinal fluid. The manometric studies on the fluid have proved reliable in the case of complete block and highly suggestive in the case of incomplete block, not only in determining the presence of thrombosis but also as criteria as to which side is involved. Absence of block as determined by spinal fluid tests is also of value in the differential diagnosis of sinus thrombosis. The test has proved of special value in cases presenting double mastoiditis developing symptoms of lateral sinus thrombosis. While theoretic dangers must be admitted in carrying out this procedure, in eighty-four cases Tobey has not seen evidence of ill effect from the technic.

Georgia Medical Association Journal, Atlanta

15: 1-40 (Jan.) 1926

Treatment of Syphilis in Children: Intraperitoneal Injection of Neo-Arsphenamine and Mercurosal. J. Yampolsky and G. F. Klugh, Atlanta.—p. 1.
Physiologic Pigmentation of New-Born. M. H. Roberts, Atlanta.—p. 4.
Pyuria in Infants and Children. W. W. Anderson, Atlanta.—p. 9.
Orthopedic Treatment of Arthritis. T. Toepel, Atlanta.—p. 13.
Salient Points in Treatment of Syphilis. W. P. Jordan, Columbus.—p. 14.

Illinois Medical Journal, Oak Park

49: 1-88 (Jan.) 1926

Abnormally Located Goiters. F. H. Lahey, Boston.—p. 11.
*Acute Pancreatitis. J. A. Wolfer, Chicago.—p. 14.
*Nonmalignant Obstruction of Pylorus in Aged. J. A. Witherspoon, Nashville, Tenn.—p. 21.
Diagnosis of Asthma. W. J. Quigley, Chicago.—p. 25.
*Production of Urinary Calculi by Devitalization and Infection of Teeth in Dogs with Streptococci from Cases of Nephrolithiasis. E. C. Rosenow, Rochester, Minn.—p. 28.
Responsibility of Medical Profession to Rising Generation. J. L. Edmonson, Chicago.—p. 33.
Sarcoma of Orbit: Case. G. S. Duntley, Macomb.—p. 39.
*Method of Repair of Scalp Defects. E. P. Coleman, Canton.—p. 40.
Bilateral Hematosalpinx with Rupture of One Tube. H. H. Cox and A. H. Baugher, Chicago.—p. 43.
Insanity and Shortness of Human Life Attributed to Ancient and Modern Sensuality. B. Maloy, Chicago.—p. 45.
Outlook in Tuberculosis Problem. H. C. Sweany, Chicago.—p. 61.
Nonmalignant Stricture of Rectum. C. J. Drueck, Chicago.—p. 68.
Fracture of Neck of Humerus. C. A. Finley, Galesburg.—p. 83.
Scrotal Calculi. L. Brannon, Joliet.—p. 84.

Acute Pancreatitis.—Wolfer is of the opinion that the presence of pancreatitis should be suspected in many dyspeptic patients who have pain in the left upper quadrant of the abdomen or who may be suffering from appendicitis or cholecystitis. In many instances the diagnosis of acute pancreatitis can only be made on the operating table, by observing the presence of fat necrosis and by subsequently exploring the pancreas. Wolfer urges that the pancreas should be explored more frequently when an operation is done for cholecystitis or appendicitis or in those patients who have complained of frequent attacks of acute dyspepsia. Drainage of the pancreas or peripancreatic tissue in acute pancreatitis will result in many recoveries.

Nonmalignant Obstruction of Pylorus in Aged.—Witherspoon finds that careful study of elderly people with pyloric obstruction will show that in the majority of cases the obstruction is due to the end-results of duodenal ulcer, and in these cases gastro-enterostomy offers a rapid and permanent relief. Four cases are reported.

Cause of Formation of Urinary Calculi.—The conclusion that primary urinary calculi are often due to streptococci which have elective affinity for the urinary tract and, it would seem, specific power to incite the conditions necessary for their formation, Rosenow thinks seems justified by the results of his experimental study.

Repairing Scalp Defects.—In 1777, a Philadelphia doctor by the name of Vance had a patient who had been scalped by the Indians. His wound had all healed, except the middle portion which was bare bone, and which showed no signs of improving. Vance took a shoemaker's awl and bored numerous holes through the outer table of the skull. He quit boring when a reddish fluid appeared. In his account of the case following operation, he said that "after a time proud flesh appeared to rise in these holes," and he further stated that the wound "skun over slow." Coleman reports two cases which demonstrate that this method is probably the easiest and most satisfactory way of obtaining an epithelial covering when the bare skull is exposed. However, a bone drill, not a shoemaker's awl, was used in these cases.

Indiana State Medical Association Journal, Ft. Wayne

19: 1-50 (Jan.) 1926

Diagnosis of Chronic Middle Ear Suppuration. G. W. Mackenzie, Philadelphia.—p. 1.
Diagnosis and Treatment of Ethmoid Disease. J. D. Heitger, Louisville.—p. 5.
Chronic Nephritis. C. L. Mix, Chicago.—p. 15.
Diagnosis and Treatment of Brain Injuries. A. A. Rang, Washington, D. C.—p. 21.
Editors' and Secretaries' Conference. T. A. Hendricks, Indianapolis.—p. 28.

Iowa State Medical Society Journal, Des Moines

41: 1-52 (Jan.) 1926

Differential Diagnosis of Functional and Organic Diseases of Nervous System. T. B. Throckmorton, Des Moines.—p. 1.
Aspects of Disturbed Thyroid Function. C. R. Harken, Osceola.—p. 9.
Treatment of Compound Comminuted Fractures. W. C. Newell, Ottumwa.—p. 12.
Industrial Surgery. J. F. Chalmers, Fort Madison.—p. 16.
Pick's Disease (Chronic Perihepatitis): Case. J. B. Synhorst, Des Moines.—p. 19.
Medical Economics. R. J. Eischeid, New Albin.—p. 20.
Birth Injuries: Prevention. A. A. Hoffman, Waterloo.—p. 25.
Treatment of Pertussis by Roentgen Ray. J. H. Hess, Chicago.—p. 29.
Clinical Data in Cases of Renal Lithiasis. W. F. Braasch, Rochester, Minn.—p. 33.

Journal of Industrial Hygiene, Baltimore

8: 1-18 (Jan.) 1926

Prevention and Treatment of Stiffness After Fractures. W. T. Johnson, Philadelphia.—p. 1.
Thermal Index of Atmospheric Conditions: Application to Sedentary and Industrial Life. C. P. Yaglou, Pittsburgh.—p. 5.
Treatment of Industrial (Surgical) Accidents to Restore Function and Minimize Subsequent Incapacity. L. E. Hertslet, Transvaal, South Africa.—p. 20.

Journal of Laboratory and Clinical Medicine, St. Louis

11: 209-306 (Dec.) 1925

Resistance of Fowl to Strychnine. W. J. R. Heinekamp, Chicago.—p. 209.
*Blood Sedimentation Test (Fahraeus) in Diagnosis and Prognosis of Disease. M. Bochner and H. Wassing, Paterson, N. J.—p. 214.
*Cod Liver Oil Treated with Magnesium Hydroxide in Treatment of Surgical Tuberculosis. G. B. Rhodes, Cincinnati.—p. 227.
Study of Stability of Some of Constituents of Blood in Tuberculosis. L. R. Jones, Castle Point, N. Y.—p. 231.
*Studies of Colloidal Gold Reaction Using Gold Prepared by Electrical Method. P. J. Manheims and A. Bernhard, New York.—p. 235.
Necropsy on Two Cases of Thymic Death During Surgical Operations. J. W. Fisher, Middletown, Conn.—p. 241.
*Action of Benzylamine on Circulation, Smooth Muscle and Respiration. G. R. Love and J. B. Waddell, Chicago.—p. 248.
Squamous Cell Epithelioma of Stomach: Case. P. P. Vinson and A. C. Broders, Rochester, Minn.—p. 258.
*Schick Test and Scarlet Fever. T. G. Hull, Springfield, Ill.—p. 260.
Hydrogen-Ion Concentration as Factor in Wassermann and Kahn Tests. J. H. Jennett, Kansas City.—p. 261.
Use of Living Vegetable Tissue for Securing Favorable Gaseous Environment for Anaerobic Bacteria. W. R. Carroll, Urbana, Ill., and E. G. Hastings, Madison, Wis.—p. 264.
Antigenic Value of Various Tissue Extracts in Kahn Test. P. L. Kendrick, Lansing, Mich., and H. G. Dunham, Detroit.—p. 267.
*Bactericidal Action of Whole Blood as Determined by Heist-Lacy Method. B. S. Parks, Parkersburg, W. Va.—p. 269.
Value of Acetone Determination in Expired Air in Correlation with Alveolar Carbon Dioxide Tension. P. Roth, Battle Creek, Mich.—p. 275.
Pharmacology of Some Para-Aminobenzoate Compounds. W. J. R. Heinekamp, Chicago.—p. 289.
Standardization of Some New Local Anesthetics by Pittinger Method. G. W. Moxon and O. V. Pawlisch, Chicago.—p. 292.

Significance of Blood Sedimentation Test.—Observations made on clinical cases lead Bochner and Wassing to conclude that the sedimentation test is not only an index of the degree of absorption of catabolic products, but is also an index of the degree of resistance of the host and the virulence of the organism. All other factors being equal, the rate of sedimentation seems to correspond more to the type of organism and the resistance of the patient than to the degree of catabolism and protein absorption. In tuberculosis of the lung the sedimentation test has great value, but it has proved its value in many other conditions, and, therefore, justifies its adoption as an added check to leukocyte count and temperature, subjective and objective findings, and in the diagnosis, course and prognosis of acute and chronic inflammatory conditions.

Cod Liver Oil and Magnesium Hydroxide in Surgical Tuberculosis. — In the treatment of closed tuberculous abscesses, Rhodes made use of an alkalized cod liver oil with good results. Equal quantities of magnesium hydroxide and commercial cod liver oil were boiled together and then centrifugalized. This oil is alkaline to methyl red and alcoholic phenolphthalein. It does not saponify and it remains alkaline. It is nonirritating. Pus is withdrawn from the abscess and an equal amount of the oil is introduced through the needle, which has not been removed.

Studies on Colloidal Gold Reaction.—The colloidal gold reaction, in which the gold was prepared by an electrical method, was studied by Manheims and Bernhard in eighty-six cases. The same type and intensity of reaction are obtained with this gold sol as with chemically prepared gold. It is stated that the presence of blood or blood serum in spinal fluid influences the reduction of the gold sol. The spinal fluid should always be tested for blood by the benzidine test. If blood is found present, a notation to this effect should be made on the report submitted to the clinician, so that he may properly interpret the result. Typical syphilis curves were obtained in 85 per cent of the cases of syphilis of the central nervous system.

Pharmacodynamics of Benzylamine.—Love and Waddell found benzylamine to be a cardiac depressant, acting directly on the heart muscle. Other excised smooth muscle, such as the stomach, intestines, uterus and bladder, is stimulated by small doses and depressed by larger doses. The relative action varies in different animals and different tissues of the same animal. The bladder of all animals examined responded more vigorously to benzylamine than did other smooth muscle examined. The intact stomach and bladder of dogs were stimulated by benzylamine; they were not depressed by doses which cause circulatory failure. The intact intestine and uterus of the dog were not decidedly influenced by any nonlethal dose. The respiration of dogs under light ether anesthesia is slightly stimulated by small doses and depressed by large doses. Failure of respiration is the cause of death from graduated doses. A large dose injected rapidly may cause death by simultaneous failure of the heart and respiration.

Schick Test and Scarlet Fever.—From observations made by Hull it would seem that an attack of scarlet fever tended to destroy the diphtheria antitoxin present in the circulation, causing the Schick test to become positive. Of twenty-three persons giving a previous history of scarlet fever, twenty gave a positive Schick reaction, while of 107 persons with no history of scarlet fever, fifty-six gave a positive reaction.

Bactericidal Action of Whole Blood.—From observation and study of this problem Parks believes that the whole coagulable blood of man may possess the property of destroying or inhibiting the growth of certain pathogenic bacteria. Bacteria which will not grow in the whole blood in vitro but are destroyed by it are probably incapable of producing a bacteremia. Bacteria which will grow in the whole coagulable blood in vitro are probably capable, if they reach the blood stream, of producing a bacteremia. Bacteria which will not grow in the whole coagulable blood of a patient in vitro may still produce a localized infection with the production of symptoms due to toxins and other bacterial products absorbed from such lesions with the production of symptoms. Bacteria from a local infection, capable of growing in the patient's blood in vitro, may not be the cause of the disease, although potentially capable of infecting the blood, until this tissue acquires bactericidal properties by immunologic processes. Autogenous vaccines prepared from bacteria derived from localized infections weeded out by this method are not necessarily specific, although therapeutic results may be secured by nonspecific protein reactions.

Journal of Nervous and Mental Disease, New York

63: 1-104 (Jan.) 1926

*Atypical and Masked Forms of Epidemic Encephalitis (Lethargic). A. V. Neel, Copenhagen, Denmark.—p. 1.
Behavioristic Attitudes Caused by Speech Disorders. M. K. Scripture and J. A. Glassburg, New York.—p. 17.
Spinal Cord Tumors: Six Cases Including Tuberculoma of Dura. M. H. Weinberg, Pittsburgh.—p. 23.
Unilateral Argyll Robertson Pupil, with Presence of Consensual Reaction in Both Eyes. W. C. Menninger, Topeka, Kan.—p. 58.

Atypical Epidemic Encephalitis.—Neel aims to demonstrate, by means of the increased occurrence of certain changes in the spinal fluid, that in addition to the typical and generally recognized cases of epidemic encephalitis there also occur a great many indistinct and atypical cases which, as a rule, are not diagnosed as encephalitis, but are considered as affections of some other kind. He analyzes 127 cases with a multiplicity of diagnoses which he believes were really cases of epidemic encephalitis.

Journal of Radiology, Omaha

6: 475-520 (Dec.) 1925

Clinical and Electrical Aspects of Endothermy in Dermatology. G. C. Andrews, New York.—p. 475.
Valence Changes in Tissue Due to Stimulating Radiotherapy. B. E. McGovern, Colorado Springs, Colo.—p. 480.
*Carcinoma and Sarcoma of Esophagus. C. Jackson, Philadelphia.—p. 485.
Roentgenographic Gastrocolonic Meter. W. J. Manning, Washington, D. C.—p. 500.

Endo-Esophagoscopy for Cancer.—Jackson again urges consideration of endo-esophagoscopy as an effective means of early diagnosis of malignant disease of the esophagus as well as to secure more tangible results from surgical treatment. He says that, when esophagoscopy shall be resorted to promptly on the appearance of certain very vague symptoms, there is ample justification for the belief that the surgeon will cure a considerable percentage of patients.

Kentucky Medical Journal, Bowling Green

29: 1-80 (Jan.) 1926

Prognosis in Cancer of Breast. J. H. Blackburn, Bowling Green.—p. 56.
Some Problems of Country Physicians. V. Kinnaird, Lancaster.—p. 64.
William C. Gorgas of Alabama. S. R. Roberts, Atlanta, Ga.—p. 65.
What Price Health? W. D. Haggard, Nashville, Tenn.—p. 71.
Gastroduodenal Perforations. L. Frank, Louisville.—p. 74.

Medical Journal and Record, New York

123: 1-72 (Jan. 6) 1926

Inherited Physical and Psychic Characteristics in Tuberculous Patients. F. M. Pottenger, Monrovia, Calif.—p. 1.
Prostatic Massage as Prophylactic Measure in Acute Gonococcal Infections of Anterior Urethra. A. L. Wolbarst, New York.—p. 3.
Cutaneous Tests with Suspensions of Treponema Pallidum. H. W. Patton, S. D. Blackford and D. C. Smith, Charlottesville, Va.—p. 4.
Gonorrheal Urethritis in Male. P. S. Pelouze, Philadelphia.—p. 7.
Perforation of Gallbladder with Intraperitoneal Hemorrhage: Case. E. G. Waters, Jersey City, N. J.—p. 11.
Differential Counting with Counting Chamber. A. J. Hinkleman, Oklahoma City.—p. 13.
Sanitary, Medical, Social and Moral Aspects of Birth Control. S. A. Knopf, New York.—p. 16.
Treatment of Stricture of Urethra in Sixteenth Century. D'Arcy Power, London.—p. 21.
What Did Indians Know About Medicines and Healing Treatments? L. G. Herbert, Auburn, N. Y.—p. 22.
Chronic Appendicitis. I. Boas, Berlin, Germany.—p. 25.
Chronic Appendicitis from Surgeon's Viewpoint. H. Haberer, Graz, Austria.—p. 30.
Appendicitis in Hernial Sac. L. F. Watson, Chicago.—p. 34.
Proctostasis. H. Strauss, Berlin, Germany.—p. 36.
Selection of Operative Procedure in Carcinoma of Rectum and Pelvic Colon. G. Robertson, Dunfermline, Scotland.—p. 38.
Suppurative Colitis. D. W. Zweig, Vienna, Austria.—p. 39.
Cholecystography. M. Einhorn, New York.—p. 40.
Differential Diagnosis Between Cancer and Other Gastric Conditions Essentially Associated with Subacidity. S. Basch, New York.—p. 44.
Clinical Applications of Duodenogram. J. Buckstein, New York.—p. 49.
*New Rapid Panchromatic Blood Stain. F. Proescher and A. S. Arkush, Agnew, Calif.—p. 51.
How Duodenal Tube May Be Passed in Highstrung Patients Without Causing Excitement. C. E. Haines, New Rochelle.—p. 51.

Panchromatic Blood Stain.—The stain made by Proescher and Arkush is a mixture of 60 mg., each, of methylene blue, thiazin red (methylene azur), azur II eosin, and eosin, 25 cc. distilled water and 50 cc. acetone. The smear is covered with a few drops of the staining solution, the excess stain is decanted, and the adhering solution is allowed to remain at least thirty seconds. The film is then washed with tap water. The result obtained with the modified stain is practically the same as with a combined May Grünwald-Giemsa stain. The granules of the neutrophils, eosinophils and basophils are more distinctly stained than with any other method. This is especially noticed in smears from leukemic blood, in which premature granules are excellently brought out. In addition to the more obvious advantages of this method, danger from overstaining has been removed.

Mental Hygiene, Albany, N. Y.

9: 673-896 (Oct.) 1925

Individualism and Organization of Neuropsychiatric Work in Community. A. Meyer, Baltimore.—p. 673.
Tentative Program of Cooperation Between Psychiatrists and Lawyers. S. S. Glueck, Cambridge, Mass.—p. 686.
Pleasure and Deterioration from Narcotic Addiction. L. Kolb, Washington, D. C.—p. 699.
Case for Mentally Retarded. C. S. Berry, Detroit.—p. 725.
Personality Deviations: Their Relation to Home. S. Foster, Boston.—p. 735.
Masculine Side of Occupational Therapy. L. J. Haas, White Plains, N. Y.—p. 743.
Rôle of Conferences with Relatives in Educational Program of State Psychopathic Hospital. F. G. Ebaugh, Denver.—p. 753.
Syphilis in Etiology of Mental Deficiency. N. A. Dayton, Wrentham, Mass.—p. 760.
Résumé of Research Work at Letchworth Village. H. W. Potter, Thiells, N. Y.—p. 772.
Outcome of Mental Diseases in United States. H. M. Pollock, Albany.—p. 783.

New York State Journal of Medicine, New York

26: 43-84 (Jan. 15) 1926

*Treatment of Diabetes Mellitus in Children. R. H. Dennett, New York.—p. 43.
*Chronic Ulcerative Colitis in Childhood. H. F. Helmholz, Rochester, Minn.—p. 46.
Relation of Diet to Eye. A. M. Yudkin, New Haven, Conn.—p. 51.
Conservatism in Treatment of Eclampsia. H. C. Williamson, New York.—p. 55.
*Intravenous Use of Paraldehyde in Eclampsia. W. E. Caldwell, New York.—p. 57.
Thyroid Feeding in Pituitary Disease. F. W. Marlow, Syracuse.—p. 59.
Is Psychotherapy Worth While? J. R. Wiseman, Syracuse.—p. 62.

Treatment of Diabetes Mellitus in Children.—Dennett finds that the diabetic problem is simpler in young children than it is in adults, first, because the child is always under the supervision of its mother or a nurse, and, second, he has to eat the food that is given him. He has less temptation to deviate from the diet because of this supervision. He leads a regular life with less interruptions, has his sleep at stated hours, and his food at more regular intervals. Mental strain is avoided and it is a simple matter to regulate his exercise. Formerly, the high mortality of diabetes in children was discouraging to parents and physicians alike. Now, with the use of insulin, there is definite promise of saving life and of making the dwarfed, emaciated child into a normal, healthy individual, and in certain favorable cases there is the possibility that the pancreas will so regenerate that insulin may be discontinued.

Chronic Ulcerative Colitis in Childhood.—Helmholz reports seven cases of chronic ulcerative colitis occurring in children, making a total of eleven cases seen by him. He feels that the bad prognoses formerly given must be reconsidered. With the establishment of a definite etiology, the main effort must first be to locate and remove possible foci of infection; second, to treat with a specific vaccine, and third, to improve the child's general, as well as specific, resistance by transfusion.

Paraldehyde Intravenously in Eclampsia.—The intravenous use of paraldehyde has been resorted to by Caldwell in the treatment of forty-seven cases of eclampsia. The effect in the majority of cases was startling. The patient relaxed immediately and went into a natural sleep; the respirations became deeper and more regular; the cyanosis cleared up and the blood pressure sometimes dropped from 15 to 20 mm. of mercury and the pulse became full, regular and much slower. The average dose is 2 cc., occasionally as much as 3 cc., injected directly into the median basilic vein. With these small doses the anesthetic action is very short, but it is sufficient to allow the careful examination of the patient and to make such necessary manipulations as phlebotomy, washing out of the stomach and the rectum without disturbance to or excitement of the patient. The anesthetic action is followed by a considerable period of relaxation and allows time to obtain the physiologic action of morphine administered at the same time as the paraldehyde. It has not been used for its curative effects in toxemias of pregnancy, but merely as an aid in controlling the patient while other means for relief of the condition are being instituted.

Oklahoma State Medical Association Journal, Muskogee

19: 1-30 (Jan.) 1926

Cesarean Section. W. A. Fowler, Oklahoma City.—p. 1.
Management of Puerperal Sepsis. W. H. Livermore, Chickasha.—p. 4.
Nitrous Oxide and Oxygen in Obstetrics in Home. J. L. Day, Norman.—p. 5.
Skin Transplantation. C. V. Wedel, Oklahoma City.—p. 7.
Inflammatory Bone Trouble. A. V. Emerson, Tulsa.—p. 11.
Enlarged Program for Maternal Welfare. W. A. Fowler, Oklahoma City.—p. 16.

Philippine Islands Medical Association Journal, Manila

5: 353-390 (Dec.) 1925

*Leprosy as Cause of Death. E. V. Pineda.—p. 360.
*Bacteriologic Findings in Children of Lepers: Nasal Lesions. F. Solis and H. W. Wade.—p. 365.
*Recent Developments in Chemistry of Leprosy Therapy G. A. Perkins.—p. 369.
Effect on Leprosy of Certain Oils Not in Chaulmoogra Group. B. de Vera.—p. 374.

Cause of Death in Lepers.—Pineda shows that in only comparatively few cases—eighteen deaths in 500 cases of leprosy—does leprosy cause death, but when it does, it is in a more definite way than the simple term of leprosy can convey. This may be brought about in two fairly definite ways: (*a*) leprosy per se with no apparent secondary condition, and (*b*) leprosy giving rise to accidents that are the immediate cause. The first of these modes is illustrated by patients who die in the acute stage of leprosy fever or reaction with its various skin and constitutional manifestations, or of exhaustion or vital depression (leprous cachexia) later in the course of the disease, unaccompanied by any acute manifestations. The second possibility is exemplified by cases in which there is mechanical obstruction of the larynx by leprous granulation tissue and death is brought about through asphyxia. In this type of case the final exciting cause may be the actual granulation tissue, edema, or any comparatively small foreign body that may serve completely to occlude an already narrowed lumen.

Bacteriology of Nasal Lesions of Leprosy.—Solis and Wade examined the nasal mucosa of 250 children for lepra bacilli. In thirty-five, positive findings were made, but in not a single instance were nasal smears positive in the absence of positive skin lesions. The findings strongly indicate that nasal lesions are entirely secondary manifestations in young children, and emphasize anew the fact that the nasal mucosa is not frequently the site of the initial lesion in leprosy. Indeed, they strongly suggest that, at least in young children, the initial lesion does not occur here at all, though there is reason to believe that it may occasionally occur in older persons.

Control of Leprosy.—Treatment, not segregation, in Perkin's opinion, is the only reasonable hope for the control of leprosy as a world problem.

Philippine Journal of Science, Manila

28: 453-630 (Dec.) 1925

Philippine Citrus Fruits. A. H. Wells, F. Agcaoili and M. Y. Orosa.—p. 453.
Pharmacognostical Study of Chenopodium Ambrosioides Linnaeus from Philippines. J. K. Santos.—p. 529.
Structural Characteristics of Double Yolked Eggs and Relation of Membranes of Twin Embryos Resulting from Double Yolked Egg. M. D. Sumulong.—p. 549.
Two New Species of Dragon Flies (Odonata) from Philippine Islands with Remarks on Genus Heliogomphus. F. F. Laidlaw.—p. 55[illegible].

New and Rare Philippine Lepidoptera W. Schultze —p 567.
New Species of Hoplionota in Philippines F. Spaeth —p 577.
Brenthids R Kleine —p 589
Three New Species of Philippine Galerucini. V. Laboissière —p 609.

United States Naval Medical Bulletin, Washington, D. C.

24:1 174 (Jan) 1926

Contributions of Medical Corps, U. S. Navy, to American Medicine. E R Stitt —p. 1
Black Tongue C R Wells —p 12.
Development of Venereal Prophylaxis in U. S Navy. C. A. Setterstrom. —p 31.
Systematization of Dental Treatment in Navy. W. Rehrauer.—p 42.
Recruiting L B Marshall —p 49
Lange Colloidal Gold Reaction R. B H. Gradwohl —p. 55.
Acute Injuries of Brain G W Shepard.—p 61
Chart for Determination of Erythema Dose in Roentgen Ray Therapy. E L Whitehead —p 68
Analysis of Aviation Crashes. J D Benjamin —p 72.
Bundle Branch Heart Block. Case H E Hill.—p 77
Ear Affections Resulting from Neptune's Party W S. Sargent.—p 82.
Sarcoma of Neck Case C D Middlestadt —p 88
Acute Intestinal Obstruction Two Cases K E Lowman —p 91.
Conservative Treatment of Buboes J M Barnes —p 96
Unusual Result (Natural Cure) in Fracture About Elbow Joint. R. Hayden —p 99
Carrying Case for Bedside Laboratory Work R E. Weaver —p 100.
Iritis Due to Sodium Iodide Case J. L Emenhiser —p 101.
Age Factor in Major Surgery. C W Lane —p. 102.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

1:1 40 (Jan. 2) 1926

*Cancer of Colon. C. A Pannett —p 1
Save the Women and Children C Berkeley —p 4
Identification of Firearms and Projectiles. S. Smith —p. 8
*Specific Antitoxin in Treatment of Scarlet Fever. A. G Robb —p. 11.
*Salivary Calculus G H. Edington —p. 13
*Carcinoma of Stomach After Gastrojejunostomy. S T. Beatson.—p. 15.
Position of Stomach in Healthy British and American Subjects R. O. Moody —p 15
Occlusion of Receptaculum Chyli: Progressive Emaciation: Death. T. S. Wilson —p 16
Congenital Pachydermatocele Case M Sourasky —p 16.
Luminal Sodium in Status Epilepticus: Three Cases W. J T Kimber. —p 16
Vaginal Calculus W. F. Brayner —p 17.
Pituitary Extract to Correct Constipation Due to Morphine: Case. E. Obermer —p. 17.
Nephritis Following Tonsillitis· Case. P C Peace —p. 17.

Cancer of Colon.—Pannett's experience has convinced him that in cases of cancer of the colon surgery is justified. Survival over three years is common, and up to five years not infrequent. This is a disease which is quickly fatal once obstruction has occurred. Many victims are at the time of life when they cannot expect to live for many years. From suitable surgical measures they get immediate relief and prolongation of life in comfort.

Specific Antitoxin in Treatment of Scarlet Fever.—Robb reports very good results from the use of specific streptococcus antitoxin in the treatment of cases of scarlatina. However, good effects are to be looked for only in cases treated early, within two or three days of the onset. In such early cases the attack has been completely aborted, and desquamation and complications prevented, or greatly diminished, so much so that the quarantine time could be reduced about 50 per cent.

Salivary Calculus.—The nine cases reported by Edington illustrate the comparatively high incidence of calculus in the submaxillary apparatus: the high proportion of males; the absence of a constant clinical picture; the obscuration of diagnosis by inflammation, and in the four specimens analyzed the part taken by phosphates.

Carcinoma of Stomach After Gastrojejunostomy.—Beatson's case was one in which death resulted from gastric carcinoma twelve years after a gastrojejunostomy had been done for a reason not ascertainable at the time. The pros and cons of the ulcer-cancer question are discussed.

Journal of Laryngology and Otology, Edinburgh

40:765-850 (Dec) 1925

*Toll of Chronic Nasal Focal Sepsis on Body and Mind. P. Watson-Williams —p 765
Large "Pharyngostomes": Complication of Laryngectomy. A. G. Tapia. —p. 781.
*Case of Speech Without a Larynx. H. Burger.—p 789.
Simple But Effective Artificial Larynx. R. G. Brown.—p. 793.

Effect of Chronic Nasal Focal Sepsis on Mind.—Watson-Williams is of the opinion that the social and economic loss from focal sepsis of nasal origin is immensely greater than that from tuberculosis. The slighter mental disturbances, amounting to alteration in character, disposition and power of concentration, are fruitful causes of unhappiness in the home, of broken hearts, of business losses, and loss of time and energy to the working man; while the more pronounced manifestations are seen in the insane asylums, perchance in the prisoner or the suicide, amounting to a stupendous toll of truly national import; and the pity of it is that the causal infection is largely amenable to successful elimination.

Speech Without a Larynx.—Burger's patient, aged 39, suffered from cancer of one vocal cord. Three and a half years before, laryngofissure had been performed. A rapid recurrence of the disease took place. After preliminary gastrostomy, the larynx was removed The wall of the pharynx became necrosed, necessitating a plastic operation. A large skin flap from the neck was used for the formation of a new pharynx A part of the external wound has been covered by a flap taken from the thigh. The success achieved has been complete After three years, the man is considered cured of his malignant disease, and, moreover, he has a new and fairly good voice, allowing him to carry on his business and to be a normal person in society. The opening of the windpipe is situated in the neck, and there is no communication whatever between the lungs and the pharynx or the mouth. Of the three elements necessary for voice production—the lung with the windpipe as a bellows apparatus, the larynx as the organ producing the sound, and the parts concerned in articulation—the patient possesses only the last. Nevertheless, he can speak distinctly and sonorously. He produces all the speech sounds correctly. He can be heard all over a large room, and delivers speeches at meetings and, as secretary, reads the minutes. He can sing, whisper, whistle, smoke and blow the smoke through the nose. He can blow out a candle at the distance of 12 inches; he can blow his nose. Eating and drinking cause him no trouble, especially drinking. He can retain almost the whole contents of a glass of water without swallowing After dinner, when the stomach is full, speaking is no trouble to him; it is even easier than at other times. Laryngoscopic examination reveals the fact that the site of the pseudoglottis is at the mouth of the esophagus; further, in quiet respiration this mouth is always wide open. It is not only the esophagus that does duty as an air-chamber: the stomach collaborates.

Lancet, London

1:1 60 (Jan 2) 1926

Widening Range of Medicine L Dawson —p 3.
New Methods, Devices, and Apparatus for Routine and Research Laboratory A. E. Wright —p 4.
*Irradiation of Foodstuffs with Ultraviolet Light H. M. M. Mackay and H. F Shaw.—p 8
Ultraviolet Irradiation in Activation of Cholesterol and Foods. A. F. Hess and M Weinstock —p 12.
*Ischemic Necrosis of Cardiac Wall. C. F. Coombs and G. Hadfield.—p 14
*Roentgenologic Study of Case of Incomplete Intestinal Obstruction. T. I. Candy —p 15.
Borocaine. New Local Anesthetic. E Watson-Williams —p. 16
*Lung Splint R C Wingfield.—p 17.
*Hemolytic Icterus Treated by Splenectomy. L S Hannema —p 18.
*Hyperglycemia Without Coma: Case. E. B. Leech and G. Thomas. —p 20.

Irradiation of Foodstuffs with Ultraviolet Light.—The clinical value in the treatment of rachitic children of certain irradiated foodstuffs was investigated by Mackay and Shaw. Three children received irradiated dried milk. In one case the milk formed only part of a mixed diet, which included meat and vegetables. All three children showed roentgenographic evidence of healing between the fifteenth and twenty-second day after treatment was begun, and in all there was steady progress in calcification. This was at a rate comparable to that usually obtained by direct exposure of the child to the light of the lamp or by administration of cod liver oil by mouth. Moreover, in one child suffering from spasmophilia (infantile tetany) the condition was cured as it would be by direct irradiation. In order to test whether or not the antirachitic property induced by light in the milk would withstand the effects of cooking, two children were given irradiated dried milk, which, after being mixed with water, was simmered over a gas flame, the temperature being kept at the boiling point ten minutes. Both these children had undergone a preliminary control period during which there was no evidence of healing. The roentgenogram showed the first signs of healing on the seventeenth and the nineteenth day, respectively, after the boiled irradiated milk was first given. One child with severe rickets received irradiated, full-cream sweetened condensed milk in place of dried milk. The same rapid calcification was brought about as in the other five cases. The results obtained with irradiated, white wheaten flour were inconclusive and probably negative. Only one inpatient received irradiated cottonseed oil. Healing was apparent on the thirty-ninth day and progress in calcification was slow.

Ischemic Necrosis of Heart Wall.—The symptoms of sudden or rapid occlusion of a larger branch of one of the coronary arteries of the heart by thrombosis or (much less often) by embolism are discussed by Coombs and Hadfield under three heads: (*a*) acute ventricular failure; (*b*) chronic cardiac failure, and (*c*) death before diagnosis. Illustrative cases are cited.

Roentgenoscopy of Intestinal Obstruction.—In the case cited by Candy the terminal 6 inches of the ileum along with its mesentery were thickened and indurated, resembling the appearance and feel of a "leather-bottle stomach." The part was excised, including the thickened mesentery, and ileocecostomy was performed. After the first week the patient began to gain strength. All symptoms gradually disappeared, and she was discharged from hospital "cured."

Lung Splint.—Wingfield controls the movement of the upper half of the thorax by a splint consisting of an aluminium shoulder piece, covered with rubber and lined by a rubber pneumatic bag, which can be inflated to any desired pressure. It exerts an inward pressure in all directions, the power being derived from its own rigidity and by anchoring it to the opposite shoulder and thigh.

Splenectomy in Hemolytic Icterus.—The two cases recorded by Hannema presented similar features and in both, treatment by splenectomy gave favorable results, which have lasted for three years and eighteen months, respectively.

Hyperglycemia Without Coma.—The patient whose case is cited by Leech and Thomas was not comatose and yet had in his blood a concentration of 1.2 per cent of reducing substances (estimated as glucose). Under treatment with diet and insulin, 10 units a day, the blood sugar fell to 0.109 per cent on the seventh day.

Practitioner, London

116: 1-88 (Jan.) 1926

*Some Pitfalls in Surgical Diagnosis. H. F. Waterhouse.—p. 4.
*Value of Modern Laboratory Methods to General Practitioner. F. W. Andrews.—p. 17.
*Value of Examination of Eye in Diagnosis. R. Cruise.—p. 23.
Cystoscopy in Diagnosis. J. Thomson-Walker.—p. 32.
*Blood Pressure in Diagnosis. R. D. Powell.—p. 42.
*Examination of Heart by Electrocardiograph. F. W. Price.—p. 53.
Use of Test Meals and Duodenal Tubes in Diagnosis. F. C. Moore.—p. 61.
*Value of Blood and Urine Examination in Renal Disease. H. Maclean.—p. 67.
Skin Reactions in Asthma, etc. J. Freeman.—p. 73.
Skin Reactions in Diphtheria, Scarlet Fever and Tuberculosis. A. B. Porteous.—p. 79.

Inversion of Testis.—Waterhouse discusses the differential diagnosis of acute osteomyelitis, subphrenic abscess, perforated gastric ulcer, gangrenous appendicitis and inversion of the testis. The latter, Waterhouse says, is hardly ever mentioned in surgical textbooks, yet it has a considerable importance. In this condition the testis is displaced, so that the epididymis is in front, and the body of the testis behind it. The tunica vaginalis lies posterior to the body of the testis, and a hydrocele will, therefore, have the testis in front of it. As regards the frequency of inversion, Waterhouse examined 100 men and found it present in three instances. In 907 postmortem examinations, inversion of the testis was found twelve times. In no case was the inversion bilateral. Under ordinary conditions this displacement is never discovered. Serious danger threatens, however, when a hydrocele is tapped or operated on in the case of inversion of the testis. In Waterhouse's experience, injury to the testis in tapping a hydrocele has been a frequent cause of hematocele of the tunica vaginalis testis, and in only one of these cases had the testis not been inverted. When it is necessary to tap a hydrocele which is not translucent to transmitted light, Waterhouse advises entering the trocar on the outer side of the scrotum, instead of in front. He thinks it probable that inversion of the testis may predispose to the development of a hydrocele, because he has met with the condition in no fewer than twenty-two patients.

Value of Laboratory Methods in Diagnosis.—So valuable have modern laboratory methods proved that the clinician, and perhaps especially the general practitioner, may be tempted to place too much reliance on the pathologist. Andrews insists that the results of laboratory methods, often carried out without actual contact with the patient, must be kept in due perspective as factors only, though often very essential ones, in the full review of the facts concerning any particular case. They can never replace the thorough physical examination of the patient.

Diagnostic Value of Eye Examination.—The diagnostic value of examination of the eye, Cruise shows, lies in its potentiality for confirming a suspicion, or for arousing a suspicion, and in one class of case—hypophysial tumor—in being the sole arbiter for conviction or acquittal of a suspect.

Blood Pressure in Diagnosis.—Powell emphasizes the fact that increased intra-arterial pressure is a symptom, not a disease, although, like other symptoms it may become so predominant as to require direct intervention. It must be regarded in due coordination with all other symptoms of organic unsoundness or ill conditions of life, of which it is often the first danger signal. In many cases its direct effect is compensatory, sustaining function under difficulties, and so it must rarely be isolated for attack in treatment.

Value of Electrocardiography.—Clinical electrocardiography, in Price's opinion, affords the best method of investigation of disordered cardiac mechanism, and, indeed, is frequently essential. It gives evidence of left or right sided preponderance when either exists; it is occasionally of value in the diagnosis of chronic valvular disease; it contributes the most certain sign of transposition of the heart, and is a valuable aid in quinidine therapy. Most important of all, it is the most precise means of investigating the functional efficiency of the heart muscle itself.

Value of Blood and Urine Examination in Kidney Disease.—Estimation of the amount of urine is an extremely simple process which can be carried out by any one in a few minutes. Maclean says that this simple procedure gives more information in general renal conditions than any other tests at present employed. Instead of relying on albuminuria as an index of renal disease, the medical practitioner should get into the way of relying on urea concentration. It is not yet sufficiently recognized that the absence or presence of albuminuria affords but little evidence as to the condition of the kidneys. At least 50 per cent of average persons showing some albuminuria possess quite satisfactory kidneys. Again, the amount of albumin present is of little significance, except in acute disease, so that estimation of this product is usually superfluous. Further, it is very generally accepted that the particular kind of diet taken is not without influence in cases of albuminuria, and that the amount of albumin passed is decreased when protein is eliminated from the diet. This, however, is but another error founded on defective observation; no variation in diet protein produces any effect on the amount of albumin excreted in the urine.

Bulletin de l'Académie de Médecine, Paris

95: 1-26 (Jan 5) 1926

*Recovery After Removal of Gastric Cancer. G. Hayem —p. 15.
*Marie-Bamberger Disease in a Lioness. V Ball and C Lombard —p 16.
*Blood Transfusion in Septic Peritonitis Poenaru Caplesco —p 17.
*Uremia and Oxalemia J. Khouri —p 20
*Tuberculosis in Bakeries J. Parisot and G Richard —p. 23.

Case of Recovery from Gastric Cancer.—Hayem's patient had had extensive resection of the stomach done for a malignant epithelioma of the tubuloracemose type over twenty-seven years before He died recently from intercurrent "congestion of the lung" at the age of 68 Hayem considers the case as one of unquestionable recovery from malignant disease.

Hypertrophic Pneumic Osteo-Arthropathy in a Lioness.—Ball and Lombard report a case of Marie-Bamberger disease in a 10 years old lioness. The pulmonary lesions and general condition had grown steadily worse since the animal had last borne young. At necropsy all the bones appeared involved, especially those of the limbs and pelvis. The lungs presented lesions of chronic tuberculosis with bronchiectasis; there was also fatty degeneration of the liver

Transfusion in Septic Peritonitis.—Caplesco applied transfusions of blood in eight cases of septic peritonitis consecutive to appendicitis He emphasizes that while this complication, treated by other methods, ended always fatally, all his patients recovered after one, two or three transfusions of 100 or 200 cc of blood He believes that excellent results may be obtained from transfusion in acute septic infections and infectious diseases.

Uremia and Oxalemia.—In ten of Khouri's cases of uremia the amount of oxalic acid in the blood was markedly increased; in one case to 0 6 Gm. per liter In one patient under observation for a year, an improvement corresponded always to a considerable reduction of the oxalic acid content of the blood, while the amount of urea did not change Khouri describes his test which is sufficiently accurate for evaluation of small quantities of oxalic acid in the blood

Tuberculosis in Workers in Bakeries.—Summarized in Paris Letter, Jan 30, p 362.

Bulletins de la Société Médicale des Hôpitaux, Paris

49: 1577-1692 (Dec. 18) 1925

*Intestinal Lipase and Fats L Binet —p 1578
*Vaccine Treatment of Chancroid Laederich and Weill Spire —p. 1581.
*Simultaneous Bilateral Pneumothorax E Rist et al —p 1583
*Vaccination Against Tuberculosis B Weill Halle and R. Turpin —p. 1589
Bone Lesions in Recklinghausen's Disease Babonneix et al —p 1601.
Infarction of the Auricle A Clerc and R Levy.—p 1603
*Recklinghausen's Bone Disease G Guillain et al —p 1607.
*Neurosyphilis with Xanthochromia. G. Guillain et al —p 1613
*Vaccine Therapy in Chancroid Hudelo et al —p 1619
*Tolerance for Epinephrine A Ricaldoni —p 1627.
Therapeutic Bilateral Pneumothorax Denechau and Amsler —p 1629.
Phrenicotomy with Pneumothorax in Treatment of Tuberculosis W. Jullien —p 1635
Resorption of Injected Serums in the Undernourished. L Ribadeau-Dumas and Tisserand —p 1637.
Septicemia from Anaerobic Bacilli Vaucher et al —p 1641 N Sp
Pancreas Function Tests with Duodenal Tube. Chiray et al —p 1646
Pernicious Anemia in a Syphilitic P Merklen et al —p 1665.

Digestion and Absorption of Fats in the Intestine.—Not only the pancreatic lipase but also the intestinal lipase induces digestion of fats, in the presence of bile. Binet's experiments were made on depancreatized dogs fed with butter. Three or four hours later the lacteals were found full of chyle. This testifies to the action of the intestinal lipase allowing absorption of the ingested fats.

Vaccine Therapy of Chancroid with Nicolle's Vaccine.—Laederich and Weill-Spire treated with Nicolle's Ducrey bacillus vaccine nine patients with a suppurating bubo and one with chancroid of the arm from autoinoculation The latter patient recovered in seven days under three intravenous injections of the vaccine, each of 1 cc ; while the usual treatment continued for a month before this had failed Remarkable results were obtained in the other patients Recurrence of the bubo was noted in one case, eleven days after the last injection. The series of injections was then repeated. In twelve days the bubo had disappeared, and the chancroid healed permanently. In another case of recurrence, the second series of injections was followed by complete recovery in five days.

Pneumothorax Induced Simultaneously in Both Lungs.—Summarized in Paris Letter, January 30, p. 362.

Vaccination of Infants Against Tuberculosis.—Weill-Hallé and Turpin inoculated 298 infants with the Calmette-Guérin BCG vaccine (described editorially in THE JOURNAL, Sept. 12, 1925, p 826). A dose of 2 cc. of an emulsion containing 0 01 Gm of a culture of the living bacilli, grown with bile, was given with a teaspoon of milk, half an hour before feeding. The first dose was given the fourth or fifth day after birth, and two more at one day intervals. Seventeen of the vaccinated remained with the tuberculous mothers. All the infants have gained normally in weight. One of them is now over 3 years old; it weighs about 16 Kg. and is perfectly healthy. Six infants remained in contact with their tuberculous father Two of them, now over 2 years old, are in excellent health and show a negative tuberculin test. Twenty-four infants belonging to healthy parents were examined three years after the vaccination. The children have grown normally, the skin test is negative in 80 per cent of them. The mortality from nontuberculous diseases was from 5.1 to 6 04 per cent, from tuberculosis, 0 39 to 0 5 per cent. No by-effects were noted with the vaccination. The duration of the immunity is not yet established. (Compare with recent editorial, p 626)

Case of Generalized Recklinghausen's Bone Disease.—Guillain, Bertrand and Garcin call attention to two symptoms manifest in their case of osteitis fibrosa osteoplastica: The appearance of the bone swelling was always accompanied by an extremely severe and piercing pain, which disappeared as soon as the bone tumor had fully developed. The other symptom was the higher local temperature in the affected area. The histologic findings differentiate the disease from a myeloplax sarcoma

Neurosyphilis with Xanthochromia of the Cerebrospinal Fluid—Guillain, Lechelle and Péron describe a case of syphilis in which the cauda equina syndrome coexisted with a yellowish discoloration of the cerebrospinal fluid and a large albumin content This xanthochromia reveals a special form of neurosyphilis, a meningomyelitis with gummatous radiculitis of the cauda equina The yellow tint of the cerebrospinal fluid may aid in differential diagnosis from a low Pott's disease, or tumor of the cauda.

Vaccine Therapy of Chancroid.—Summarized in Paris Letter, Jan 30, 1926, p 361

Tolerance of the Heart and Vessels for Epinephrine.—Ricaldoni examined a patient with asthma who had been in the habit of injecting himself with epinephrine for thirteen years (0 006 Gm daily for ten years, then from 0 009 to 0 012 Gm daily for three years). This epinephrine addiction did not seem to have induced marked changes in the cardiovascular apparatus The man was thin and pale, but his earning capacity was unimpaired and there was no hypertension

Journal de Radiologie et d'Electrologie, Paris

9: 433-496 (Oct) 1925

*Roentgen Ray Diagnosis of Fibroma. L Ferré —p 433
Congenital Torsion of the Intestine R Gilbert —p 443
Tumor from a Foreign Body in the Appendix. J. Villette —p 445.

Roentgen Ray in Diagnosis of Fibroma.—Ferré uses intrauterine injection of iodized oil for roentgen-ray diagnosis of uterine fibromas The roentgenogram is taken immediately after the injection of 4 cc. of iodized oil, the speculum still in the vagina He reports six observations in which this method revealed the size of the uterine cavity, the outline of the fibroma, its nature and localization It indicated also the condition of the adnexa and the patency of the fallopian tubes, possibly even the graafian follicle. The diagnosis of the fibroma had been clinically established in all the patients. The injection seemed to be harmless, and none complained of pain from it Of course pregnancy, heart disease, acute metritis, and salpingitis, as well as uterine hemorrhage are contraindications for the method.

Médecine, Paris

7: 85-160 (Nov.) 1925

Syphilis, Venereal and Skin Diseases in 1924 and 1925. H. Gougerot.—p. 85.
Hydrea Vacciniforme and Sunburn. L. Brocq.—p. 104.
*Treatment of Acne. R. Sabouraud.—p. 110.
*Treatment of Lichen. L. Spillmann and J. Watrin.—p. 115.
*Treatment of Urticaria. Lortat-Jacob.—p. 116.
Nature of Malignant Granulomatosis. Louste—p. 121.
Juxta-Articular Nodules. R. Bernard.—p. 123.
*Psoriasis. Lévy-Franckel and E. Juster.—p. 128.
Epilepsy of Syphilitic Origin. Jeanselme.—p. 130.
*Neurotropic Virus of Syphilis. J. A. Sicard.—p. 141.
Test Treatment of Syphilis. J. Nicolas and M. Pillon.—p. 145.
The Various Manifestations of Congenital Syphilis. G. Milian.—p. 147.
Treatment of Mixed Chancre. Lévy-Bing and R. Barthélemy.—p. 151.
*Migraine and Scotoma. M. Pinard.—p. 152.
*Early Syphilitic Aortitis. H. Bonnin.—p. 156.

Treatment of Acne.—Sabouraud applies the electric spark or roentgenotherapy in polymorphous acne persisting still after a three weeks' course of sulphur treatment. He prefers the roentgen ray to the high frequency spark, as it is not painful and its action is more constant. Good results were noted after a total of four exposures, each of 400 (Solomon ionometer) units, at eight day intervals. He emphasizes that recurrences may be expected as long as the causal factor of the acne, namely the seborrhea, is not cured. As soon as the acne is healed, he orders a sulphur mixture rubbed vigorously into the skin once a day or on alternate days for thirty or forty seconds at a time. After fifteen or eighteen months of sulphur treatment the seborrhea gradually subsides. There seem to be no cases of incurable acne under this treatment as he manages it.

Roentgenotherapy of Lichen Planus.—Spillmann and Watrin apply the technic Bordier uses for anterior poliomyelitis. The spine from the first dorsal to the fifth lumbar vertebra is divided in five fields, and a dose of 3 or 4 H. units is applied to each field, perpendicular to the laminae, in order to influence directly the spinal cord. A single exposure induced retrogression of the papules and relief from the itching in from ten to fifteen days. Soon all morbid signs disappeared. On the other hand, Gouin's ten patients with lichen completely recovered after 5 H. units of nonfiltered rays had been applied to the fourth and fifth dorsal vertebrae. The irradiation was superficial, acting probably only on the sympathetic system.

Damage from Cathartics in Urticaria.—Lortat-Jacob warns against any cathartics or laxatives, especially in small and repeated doses, because this favors the absorption of toxic substances and aggravates the urticaria. He suggests lavage of the intestine with physiologic saline solution for infants, and charcoal by mouth for older children and adults. A teaspoonful of granulated charcoal is given three or four times daily, for ten days. In adults it may be combined with enemas of physiologic solution. The usual methods of desensitization are employed at the same time. He says that his long experience has proved this treatment to be effectual.

Hereditary and Familial Psoriasis.—Lévy-Franckel and Juster found hereditary and familial psoriasis in 10.6 per cent of 160 cases observed. The psoriasis was hereditary in ten instances, familial in ten; both hereditary and familial in three. There was no coincidence of asthma or eczema with the psoriasis, while these affections were frequent in the preceding two or three generations. Abortions occur frequently in women with psoriasis from childhood and a negative Wassermann test, but with a history of syphilis in the family. This suggests that hereditary and familial transmission of psoriasis is due to syphilis, which may create a special skin, gland or humoral predisposition, a syphilitic dystrophia. That the action of syphilis is dystrophic and not microbian is seemingly proved by the fact that cases of conjugal psoriasis are almost unknown.

Neurotropic Virus of Syphilis.—Sicard reports two observations which he considers as an argument against the theory of a syphilitic neurotropic virus. In both cases the persons from whom the infection had been derived did not present any form of neurosyphilis, while the contaminated subjects developed general paresis.

Ophthalmic Migraine and Scotoma.—Pinard relates that a course of treatment as for syphilis may cure the migraine and its attendant eye symptoms, thus revealing a latent syphilitic arteritis as responsible for the affection.

Early Aortitis in Syphilis.—Bonnin refers to Etienne's cases in which aortitis developed nine, eight and even three months after the chancre. Rapid development of the lesions, as well as early appearance of heart insufficiency or cachexia are among the characteristic signs of early syphilitic aortitis. It obviously represents a malignant form of syphilis.

Presse Médicale, Paris

34: 17-32 (Jan. 6) 1926

*The Pneumogastric and Gastric Ulcer. M. Loeper and G. Marchal.—p. 17.
Diuretic Action of Pyrola. H. Busquet.—p. 18.
Technic for Cholecystectomy. L. Desgouttes and A. Ricard.—p. 19.
Fracture of the Humerus in Children. A. Tailhefer.—p. 21.

Rôle of Vagus Nerve in Gastric Ulcer.—Loeper and Marchal emphasize that hypertonia of the parasympathetic system is not the causal factor of a gastric ulcer, but is a secondary phenomenon. Subsequently this hypertonia affects the gastric functioning, thus being responsible for pseudotabetic gastric crises, enhanced acidity of the gastric juice and decreased leukopedesis. Obviously the defensive powers of the gastric mucosa are reduced, and healing of the ulcer impeded. Severing the vagus or its destruction in the course of an extensive ulcer induces inverse phenomena, decrease of acidity and hyperleukocytosis. Therefore atropine appears to be indicated in treatment of gastric ulcer on account of its inhibiting action on the nerve tonus. It reduces gastric motility and secretion, and increases leukopedesis. The latter is more pronounced with atropine given by mouth than subcutaneously. Atropine accomplishes physiologically what is realized surgically by severing the vagus.

Revue de Chirurgie, Paris

63: 641-708, 1925

*Treatment of Jacksonian Epilepsy. R. Leriche and Wertheimer.—p. 641.
The Vertebral Column from the Anatomic and Physiologic Standpoints. Gallois and Japiot.—p. 688.

Importance of Intracranial Tension for Jacksonian Epilepsy.—Leriche and Wertheimer's experience includes, among others, thirty cases of jacksonian epilepsy consecutive to war skull wounds. It teaches that neither foreign bodies in the brain, nor lesions of the adjacent meninges, are responsible for the epileptic spasms. The share of infection is also insignificant. The occurrence and the frequency of the convulsions are in connection with changes of tension of the cerebrospinal fluid. Spontaneous or experimental spasms may be induced by hypotension as well as by exaggerated tension. Their experience shows further that withdrawing an excess of the fluid and injections of hypotonic or hypertonic solutions, as the case may be, should often be preferred to an operation. In their cases with hypotension, from 250 to 500 cc. of physiologic solution was given subcutaneously; or distilled water was used, 150 cc. subcutaneously, or from 20 to 40 cc. intravenously. In hypertension, from 20 to 40 cc. of a 30 per cent solution of glucose was administered by the vein. The dose as well as the number and mode of the injections vary according to the case. The treatment was sometimes continued intermittently for months. Eighteen of the patients have been under prolonged observation, some for up to ten years. Two have died; the others are all engaged regularly in active occupations.

Revue de Médecine, Paris

42: 457-584, 1925

*Action of Spleen Lesions on the Liver. N. Fiessinger et al.—p. 457.
*Diathermy in Treatment of Glycosuria. H. Bordier.—p. 463.
Different Clinical Pictures from Destruction of Blood Corpuscles in Malaria. Trabaud.—p. 470.

Liver Lesions Secondary to Autolysis of the Spleen.—Fiessinger, Ravina and Jovin's experiments were made on guinea-pigs and rabbits in which the spleen had been drawn out and crushed with forceps, the pedicle left intact. The lesions of the liver cells were marked in fifteen to forty-five days.

influence of the autolysis in the spleen on the hepatic cells explains the occurrence of liver disease with enlargement of the spleen from congestion or inflammation. The products of the autolysis, carried to the liver, cause first parenchymatous lesions and then cicatricial changes and cirrhosis.

Influence of Diathermy in Checking Glycosuria.—Bordier summarizes the results of Ghilarducci's research on guinea-pigs, given phlorhizin, or fed with sugar, or pancreatectomized. Diathermy was then applied to the animals and none of them developed glycosuria, while glycosuria was pronounced in the controls. The influence of diathermy was also evident in dogs with induced pancreatic diabetes. While insulin tends to supplement the products secreted by Langerhans' islands, the diathermy current stimulates the internal secretion of the islands, thus accomplishing the same purpose. Unvoli has confirmed in the clinic the insulin-like action of diathermy in diabetics, and Bordier reports the case of a young man with 5.9 per cent glucose in the urine. It dropped to zero in the course of six diathermy exposures, and the cure has been complete to date.

Schweizerische medizinische Wochenschrift, Basel

56: 25-48 (Jan. 16) 1926

*Experimental Herpes from Vaccines. O. Naegeli.—p. 25.
Multiple Sclerosis. R. Bing and Reese.—p. 30.
*Water Metabolism and Kidney Function. A. Gigon.—p. 34.
Emanations from Sediment of Radioactive Wells. L. Blumer.—p. 37.

Experimental Herpes from Vaccines.—Naegeli produced febrile herpes in a number of patients by injections of vaccines, especially those obtained from meningococci and colon bacilli. Loewenthal was able to transmit the herpes in the majority of cases to rabbits. Naegeli is inclined to support Doerr's hypothesis of a new formation of the (not living) virus in the organism, which is analogous to one theory in regard to the bacteriophage.

Water Metabolism and Kidney Function.—Gigon determined directly the water content of the blood. Comparatively slight changes of it—for instance an increase of 2 per cent—may mean in reality addition of a little over 10 cc. of water to 100 cc. of blood. Ingestion of water causes an increase of the water content and hydrogen ion concentration, slight increase of the glucose, and decrease of total carbon and nitrogen. Injection of a kidney extract prepared similarly to insulin induces similar, although slighter changes. He observed several times a favorable action of kidney substance and extracts from endocrine glands on albuminuria. There are constant relations between the total carbon and the water content of the blood. The percentage of nitrogen varies independently.

Chirurgia degli Òrgani di Movimento, Bologna

9: 213-328, 1925

*Coxa Plana. M. Camurati.—p. 213.
Deutschländer's Disease of Metatarsal Bone. G. Peremans.—p. 229.
Branching Lipoma of Tendon Sheath. Brandão Filho.—p. 235.
Madelung's Deformity. A. Merlini.—p. 245.
*Trauma of Internal Condyle. S. Lussana.—p. 269.
Ischiopubic Osteochondritis. G. Valtancoli.—p. 281.
Operative Cure of Inveterate Fracture of the Patella. G. Pieri.—p. 288.
*Osgood-Schlatter's Disease. F. Delitala.—p. 293.
Etiology of Coxa Plana. F. Delitala.—p. 309.
Recurring Forward Dislocation of the Knee Joint. S. Marconi.—p. 320.

Final Outcome of Coxa Plana.—Camurati gives the history of three cases with an interval of eleven to thirteen years between the first and last roentgenograms. The gait is now normal in one case, slightly irregular in the others. The neck of the femur is shortened and in the varus position in all. The epiphysis is flattened in all, and the acetabulum is shallow in two. One patient complains of slight pain when very tired.

Injury of the Knee.—Lussana warns that it may be difficult to distinguish between a fracture from detachment of the inner condyle and pathologic posttraumatic ossification. The latter is slower in developing and is progressive, and requires treatment by movements and exercise, not surgery.

Osgood-Schlatter's Disease.—Delitala states that congenital syphilis was beyond question in a case described in which the lesion in the tubercle of the tibia was bilateral. After failure of treatment by immobilization, clinically normal conditions were restored by an operation for fixation of the epiphysis by means of a bone peg from the tibia below. This allows perfect functioning of the muscles and favors bone repair.

Pediatria, Naples

34: 1-56 (Jan. 1) 1926

Tuberculous Peritonitis. C. Giaume.—p. 1.
*Postscarlatinal Nephritis. A. Nastasi.—p. 22.
Vaccine Prevention of Measles. A. Emmanuele.—p. 30.
*Bronchial Moniliasis. I. Nasso.—p. 37.
Hydrocephalus and Umbilical Hemorrhage. F. Lo Presti-Seminerio.—p. 43.

Postscarlatinal Nephritis.—Nastasi obtained from the urine of fourteen of twenty-three children with postscarlatinal nephritis cultures with all the characters of Caronia's alleged scarlet fever germs. No streptococci were found.

Bronchial Moniliasis.—Nasso's patient was a girl convalescent from malaria. She had symptoms of tracheobronchitis, with blood stained sputum, from which he cultivated *Monilia pinoyi*. The local symptoms and the anemia (1.5 millions erythrocytes, 45 per cent hemoglobin) were ameliorated by iodides and arsenic.

Policlinico, Rome

33: 1-40 (Jan. 4) 1926

Nature of Syphilis. L. Philippson.—p. 3.
*Vitamins and Tuberculin Allergy. P. Galli.—p. 13.
Spontaneous Pyopneumothorax. A. Stainer.—p. 16.
Determination of Acetone with Hydroxylamine. E. Pittarelli.—p. 18.

33: 41-76 (Jan. 11) 1926

Syndromes from Basal Ganglions. R. Monteleone.—p. 41.
Purulent Infections of the Kidney. R. Broglio.—p. 50.
Kidney Function Tests in Surgery. C. Ravasini.—p. 53.
The Meltzer-Lyon Test. A. Trossarelli.—p. 55.

Vitamins and Tuberculin Allergy.—Galli observed after administration of vitamins a strengthening or reappearance of the tuberculin reaction in children in the stage of anergy or very weak allergy. He points to the practical application of these findings.

Riforma Medica, Naples

42: 1-24 (Jan. 4) 1926

Function Tests of Respiratory Apparatus. G. Boeri.—p. 1.
Bilharziasis of Bladder in Somalia. C. Veneroni.—p. 9.
Colloidal Benzoin Test in Serum. L. Gaidano.—p. 10.
*Termination of Motor Nerves in the Larynx. V. Tanturri.—p. 12.
Tube Drainage of Bile Duct Through the Ampulla of Vater. S. Catellani.—p. 21.
Determination of Acetone with Hydroxylamine. E. Pittarelli.—p. 22.

Termination of Motor Nerves in the Larynx.—Tanturri found no morphologic indications of a double motor innervation of the muscles of the larynx.

Revista de la Soc. de Med. Interna, Buenos Aires

1: 463-500 (Sept.) 1925

Case of Sclerosis of Pulmonary Artery. P. Escudero.—p. 463.
Typhoid Orchitis with Epididymitis. M. R. Castex et al.—p. 471.
Early Diagnosis of Inflammation of Pulmonary Artery. F. C. Arrillaga.—p. 478.
*Insulin in Hyperthyroid Conditions. M. R. Castex et al.—p. 485.
Breast Cancer with Metastasis in Spine. Castex et al.—p. 489.
Protracted Fever from Hyperthyroidism. F. Puchulu.—p. 495.

Insulin in Treatment of Hyperthyroid Conditions.—Castex, Schteingart and Berectervide gave 20 insulin units daily for twenty days or for ten days in eighteen patients presenting exophthalmic goiter, simple goiter with hyperthyroid symptoms in the menopause, or with extremely high basal metabolism, or with thyroid insufficiency. The basal metabolism was augmented by it in three and depressed in three. It was restored to normal in only one instance (menopause case). The action of insulin in hyperthyroidism thus seems to be variable and inconstant.

Santa Fé Médico

1: 1-94 (Oct.) 1925

*The Blood in Congenital Syphilis. P. Rueda.—p. 3.
Treatment of Obstipation. J. B. Abalos.—p. 33.
The Blood as a Tissue. T. Cerruti.—p. 43.
*Obesity. E. S. Weiler.—p. 51.
Perinephritic Phlegmon. R. Landivar.—p. 64.
Sclerosis of Pleura and Lung in Children. E. Blanco.—p. 80.

The Blood in Congenital Syphilis.—Rueda's tabulated details from 100 young children with congenital syphilis record that the coagulation time was normal in only about 10 per cent and the erythrocyte count in 34 per cent, the leukocytes in about 50 per cent. In the other cases there was marked leukocytosis, the mononuclears predominating. This mononucleosis may be at first the only clue to the congenital disease.

Treatment of Obesity.—Weiler believes that too much carbohydrate in the diet leads to overaccumulation, and fat is formed in excess as a defensive reaction. Treatment should include restriction of intake of carbohydrates and, possibly, insulin to promote the utilization of carbohydrates already on hand. The diet should be somewhat like that for diabetes, with little or no carbohydrate, but no restrictions as to fats and fluids. In seventeen cases described, simple avoidance of carbohydrates brought the weight down from 94 to 88 Kg. in four months in one man, and from over 104 to 95 Kg. in six weeks in another. One woman of 59 lost 15 kg. in a few months. The one patient given insulin had lost 19 Kg. under the restricted diet alone, and then lost 4 Kg. more when insulin was injected to a total of 400 units in two weeks. Provision should be made for supply of vitamins in all cases.

Semana Médica, Buenos Aires

2: 1081-1136 (Oct. 29) 1925

Intravenous Medication. G. Aráoz Alfaro and L. Ymaz.—p. 1081.
Congenital Diaphragmatic Hernia in the New-Born. U. Fernández.—p. 1083.
*Peripheral Pseudotabes in Children. J. C. Navarro.—p. 1090.
Destructive Syphilis of Nose in Girl Aged 8. E. Beretervide et al.—p. 1093.
Alcoholism in Children. J. M. Obarrio.—p. 1096.
*Cancer in Lacrimal Sac. F. Strada and A. Urrets Zavalia.—p. 1100.
Trauma of the Chest in Relation to Tuberculosis. A. A. Masciotra.—p. 1108.
Report on Public Health and Medical Education. J. Iribarne.—p. 1111.
The Triple Record. J. Mendióroz.—p. 1118.

Pseudotabetic Polyneuritis in Children.—Navarro encountered in 1924 two cases of paresis, affecting all the body except the head, in girls, aged 6 and 11. There were no symptoms suggesting intracranial pressure, the clinical picture resembling that of locomotor ataxia. The onset was insidious and complete recovery followed in less than two months, without any medication. There were no acute symptoms in the younger child at any time; in the other case there was moderate fever and also a history of a severe fright just before the appearance of the ataxia. The children were unable to walk or even to feed themselves for a time. There was no pain or tenderness. The etiology is obscure.

Carcinoma of the Lacrimal Sac.—Epiphora and pain had been the principal symptoms of the malignant disease in the man, aged 57. Radiotherapy was applied after extirpation of the tumor but the man died in ten months, presumably from metastasis, without return of the tumor in its primary site. The case is compared with others on record, a total of twenty-five.

Deutsche medizinische Wochenschrift, Berlin

52: 49-92 (Jan. 8) 1926

Early Treatment of Syphilis. K. Zieler.—p. 49.
*Estrus-Inducing Hormone. E. Laqueur et al.—p. 52. C'cn.
*Treatment of Renal Calculus. H. Kalk and W. Schöndube.—p. 55.
*Treatment of Diphtheria. H. Heckscher.—p. 58.
*Cutting with Electric Spark. G. Döderlein.—p. 59.
Abortion. W. Hannes.—p. 60.
Meinicke Microtest. I. Franz.—p. 63.
Examination of Roentgen Pictures in Green Light. K. Henius.—p. 64.
*Insulin-Sugar Treatment of Liver Insufficiency. H. Jacoby.—p. 64.
Start of General Anesthesia with Cologne Water. E. Gohrbandt.—p. 65.
Hemorrhage from Retained Fragment of Placenta. W. Mandel.—p. 66.
Therapeutic Action of Thymus Extract. O. Blum.—p. 67.
*Food Value of Yeast. C. S. Engel.—p. 67.
Chemotherapy. R. Schnitzer.—p. 69.
Wassermann Test in Midwives. G. Loewenstein.—p. 71.
Physicians' Old Age Insurance. Landsberg.—p. 72.
Psychology and Philosophy Abroad. T. Ziehen.—p. 73. C'td.

Hormone Inducing Estrus.—Laqueur, Hart, de Jongh and Wijsenbeek confirm Zondek and Brahn's discovery of a water soluble hormone of the estrual cycle. They suggest the name "menformon" for it, but want it reserved exclusively for such preparations which contain in 1 mg. of substance at least ten doses sufficient to provoke the estrual cycle in a castrated mouse. The pure preparations contained too little substance to be analyzed chemically. They believe that the hormone probably contains no protein nitrogen, phosphorus or cholesterol.

Treatment of Nephrolithiasis.—Kalk and Schöndube inject pituitary extracts in nephrolithiasis to promote the spontaneous elimination of stones as long as they are small. Methenamine should precede this treatment in infected cases. A roentgen examination should exclude too large stones. The injection is followed within fifteen to thirty minutes by the colic, which they mitigate by morphine.

Treatment of Diphtheria.—Heckscher has treated 4,819 patients with diphtheria of the nose and throat. Antitoxin treatment was used in about two thirds of them and especially large doses (up to 200,000 units, given partly intramuscularly, partly intravenously, within two, rarely four days), were used in the 10 per cent grave cases. The total mortality was 2 per cent, but of this 0.8 per cent was attributed to complicating diseases, such as pneumonia or syphilis or lack of time for the effects of the treatment, since some of these patients died within twenty-four hours after admission. Of the remaining fifty-seven deaths (1.2 per cent) only one was due to a collapse after injection of the antitoxin, and the treatment may have contributed to the fatal circulatory failure which developed in two other patients in the third week.

Cutting with Electric Spark.—Döderlein corrects some of the optimistic misstatements circulated in the daily press on the results at the clinic he is associated with and the outlook. He points out that the method is quite old (de Forest's needle). The advantage of a bloodless and aseptic operation is offset by the grave damage done to the surrounding tissues, with no possibility to estimate in advance how deep the injury will go. The healing is much slower than after regular interventions. The method is useful only in treatment of cancer, approximately where the hot iron would formerly have been indicated.

Insulin-Sugar Treatment of Liver Insufficiency.—Jacoby confirms the beneficial influence of injection of insulin and sugar in insufficiency of the liver—especially in grave jaundice.

Food Value of Yeast.—Engel heats dry yeast in oil to 165-180 C. The oil prevents the intracellular water from escaping. The steam bursts the cellulose membrane, which otherwise makes yeast indigestible for man.

Medizinische Klinik, Berlin

22: 43-80 (Jan. 8) 1926

*Puncture of the Brain. E. Neisser.—p. 43.
*Constitutional Asthma. R. Schmidt.—p. 46. C'cn.
Psychanalysis and the Practitioner. R. Traugott.—p. 49.
Symposium on Surgery of Cancer of the Rectum. C. Ewald and others.—p. 52.
*Temporary Relaxation of the Diaphragm. W. Altschul.—p. 54.
*Insulin Treatment of Dystrophic Infants. Tezner and Ebel.—p. 56.
*Atropine Stomach Test. J. Stranz.—p. 59.
*Bismuth Inunction in Rabbits' Syphilis. G. Giemsa.—p. 60.
Psychopathy, Exophthalmic Goiter and Trauma. Schnizer.—p. 61.
Aschoff's "Pathology." S. Gräff.—p. 66.

Puncture of the Brain.—Neisser reviews the indications for puncture of the brain, which he devised, with K. Pollack, in 1904. Subdural hematomas and other intracranial hemorrhages, cysts of the cerebellum, and internal hydrocephalus may be favorably influenced and tumors recognized.

Constitutional Asthma.—Schmidt suggests to accept this name for the usual "bronchial asthma." The dominant importance of the individual constitution has to be admitted even by the partisans of the anaphylactic theory: The mere fact that only a small percentage of the subjects exposed to the same injurious agent react to it with asthma, proves this. Abnormal conditions in the respiratory apparatus (shape of chest, swelling or polyposis of the mucous membrane of the nose) are found almost regularly. Eosinophilia is another constitutional character. The asthma patient suffers from a sometimes almost universal hyperirritability (erethism). Psychic—frequently hysteric—changes, gastro-intestinal disturbances, flatulence, hives, eczema, and paroxysmal tachycardia are indications of it. He is skeptical in regard to the danger of producing anaphylaxis in man. He warns against overestimation of the diagnostic import of the results of intracutaneous tests. The skin may have its inborn or acquired peculiarities of reaction which are usually not selective, but rather directed against whole groups. "A fool can ask more questions than a hundred wise men can answer. The skin is only one wise man, and we should not compete with the fool." He believes that the general (nonspecific) sensitization has been underestimated. It may be due to infectious foci (tuberculosis, syphilis) nicotine poisoning, alcoholism and sexual excesses. A specific or nonspecific local sensitization may be due to influenza, dust, etc., but all these causes act only if endogenous readiness is encountered. He never found asthma with the typical asthenic, low-blood pressure diabetes in the young. A tendency to gout and gallstones is a common complication. Asthenia, suicides, mental disease, cancer and tuberculosis are frequent in the preceding generations. Some of the patients present for years only a "sighing sickness." He uses this term for the symptom of sighing occasionally with a deep sigh. Paroxysms of yawning or hiccup are other inspiratory equivalents. Paroxysmal expiratory phenomena, such as a pseudopertussis or attacks of sneezing, may also be encountered.

Temporary Relaxation of the Diaphragm.—Altschul has observed frequently a higher position of the diaphragm in the evening than in the morning. He calls this symptom a "soft diaphragm," and explains it by fatigue of the muscle or of the phrenic nerve.

Insulin Treatment of Dystrophic Infants.—Tezner and Ebel observed no retention of water eight hours after injecting 8 units of insulin in healthy infants. They treated seven infants suffering from chronic nutritional disturbances with insulin; only one of them gained in weight. The dietetic treatment is decidedly superior.

Atropine Stomach Test.—Stranz confirms Ötvös' observation on the prolonged evacuation time of the stomach after injection of 1 mg. of atropine, if the stomach or duodenum contains an ulcer. The method can be used only with approximately normal evacuation time of the stomach.

Bismuth Inunction in Rabbits' Syphilis.—Giemsa explains the negative results of Albrecht and Evers by important differences between their technic and the method he had used. He claims to have cured all his four rabbits.

Münchener medizinische Wochenschrift, Munich

73: 47-90 (Jan. 8) 1926

Diet in Grave Tuberculosis. F. Sauerbruch et al.—p. 47. C'td.
Treatment of Gastric Ulcer. F. König.—p. 51.
*Biology of Surviving Cancer Tissue. N. C. Louros.—p. 53.
*Beginning Cancer of the Prostate. K. Neller and K. Neubürger.—p. 57.
Modified Duodenal Tube. E. Schlief.—p. 59.
Acetylene Anesthesia and the Thermocautery. H. Wienecke.—p. 60.
Bandage for Dislocation of the Humerus. K. Wisotzki.—p. 63.
General Paresis in Turkey. A. Schükri.—p. 64.
"Intermaxillary Bone and Congenital Syphilis." A. Buschke and E. Langer.—p. 65.
Shock and the Vegetative System. H. Coenen.—p. 66. C'cn.
*Vegetative Regulation of the Skin and Liver. E. F. Müller.—p. 71. C'cn.
Professional Rules. Proposed Code of Ethics. H. Bergeat.—p. 75.
"Blood Sugar Determination." L. Flatow.—p. 90.

Biology of Surviving Cancer Tissue.—Louros incubated scrapings and sections of tumors in alkalinized Ringer's solution under addition of glucose and of bromine-thymol-blue as indicator. Considering a difference of $p_H = 0.2$ as observation errors, he confirmed that the cancer material produced about the same amount of acid under aerobic and anaerobic conditions. Other material did it in only 20 per cent of the cases. The glycolysis was much more pronounced under anaerobic conditions in the rest.

Beginning Cancer of the Prostate.—Neller and Neubürger examined histologically the prostate glands from forty men. They found atypical proliferations of the epithelium in seven of them. It occurred in every fourth man over 60 years of age, and it presented histologically all the transitions to a carcinoma. A malignant tumor may be present in a macroscopically normal gland.

Vegetative Regulation of the Skin and Liver.—Müller investigated the close connection between the autonomic regulation of the function of the skin (especially the permeability, and the tonus of the blood vessels) and of the organs supplied by the splanchnic nerves. The reaction of both systems is balanced in the opposite direction. Under pathologic conditions, this equilibrium might be either fixed or abnormally changeable. Vagotonia and sympathicotonia are not the expressions of a one-sided hyperirritability of the whole organism. He regards them as conditions characterized by the abnormal tendency to react to small stimuli by a fixed opposite attitude of the peripheral and the splanchnic systems.

Wiener klinische Wochenschrift, Vienna

39: 65-92 (Jan. 14) 1926

Dichlorene-Ether Anesthesia. P. Albrecht.—p. 65.
*Intermittent Effusions in Joints. H. Schlesinger.—p. 68.
Acute Myeloblastic Leukemia. G. Adamek and A. Grassberger.—p. 72.
*Disturbances from Horse-Shoe Kidney. E. Brecher.—p. 75.
Treatment of Rheumatic Affections. O. Nemetz.—p. 77.
"Secondary Growth of Hair." J. Olivet.—p. 78.
Insufflation of Fallopian Tubes. E. Graff.—p. 78.
Urine Infection, Cystitis and Pyelitis. V. Blum. Supplement.—pp. 1-24.

Intermittent Effusions in Joints.—Schlesinger reports a few new cases of intermittent swelling of joints. The knee was affected in all of his cases; other joints were sometimes swollen besides. The condition recurs sometimes at regular intervals. He regards the effusion as a variety of Quincke's edema. He observed it recently in five members of one family. Two of them suffer also from attacks of edema of the mucous membranes of mouth and pharynx and one from asthma.

Disturbances from Horse-Shoe Kidney.—Brecher reports two cases of apparently healthy horse-shoe kidney causing considerable subjective disturbances. These are due to stretching of the pedicle and pressure of the middle part on the blood vessels and nervous plexus. The pains are increased by lordosis. Lack of appetite, pyrosis and other gastro-intestinal symptoms may be the chief complaint. Discission of the connecting part was followed by complete recovery in his two cases. The syndrome had been described by Martinow in 1910.

Zeitschrift für Urologie, Leipzig

19: 5-74, 1925. Wildungen Lectures *Supplement*

*Treatment of Nephritis Patients. F. Volhard.—p. 5.
Pathology of Nephritis. M. Versé.—p. 17.
Roentgenography in Urology. E. Joseph.—p. 26.
*Acid-Alkali Elimination Test. E. Rehn.—p. 27.
*Surgery and Function of Kidneys. E. Rehn.—p. 38.
Neoplasms of Urinary Apparatus. F. Suter.—p. 47.
Colon Bacillus Infection of Urinary Passages. F. Suter.—p. 57.
Treatment of Uric Acid Diatheses. F. Gudzent.—p. 71.
Treatment of Diabetes. F. Gudzent.—p. 73.

Treatment of Nephritis Patients.—Volhard gives a short review of the principles on which he bases treatment of kidney disease. A simple hematuria does not require any dietetic treatment; removal of the infectious focus (tonsils, teeth) is all the patient needs. Edema without signs of insufficiency of the kidneys yields to a dry diet, free from salt. Condiments are allowed (except salt). Large doses of urea, or thyroid treatment may be necessary. A dry diet is always indicated with impending insufficiency of the heart. In acute nephritis, besides purgation, the "hunger and thirst" treatment maintained for three or five or more days are essential for prevention of dilatation of the heart and eclamptic pseudo-uremia. This treatment prevents the disease from becoming chronic. With anuria of two or three days' duration, decapsulation, or roentgen irradiation of the kidney or anesthesia of the splanchnic nerve is necessary. Every acute nephritis should be regarded as a serious affection of the heart; digitalis is practically always indicated until the pulse is 50-60, since it is usually slower in spite of the dilatation of the heart. With insufficiency of the kidneys, a diet poor in proteins and salt, and in grave cases a vegetable diet should be prescribed.

Acid-Alkali Elimination Test.—Rehn examined the hydrogen ion concentration of the urine after administration of hydrochloric acid by mouth and after injection of 40 cc. of a 4 per cent solution of sodium bicarbonate—the whole test sometimes at one sitting. Many sources of error are liable to occur: overheating or shaking of the bicarbonate solution, one-sided diet, and drugs. Atropine induces a strongly acid urine by its action on the gastric secretion, morphine and scopolamine by their action on the respiration center. Papaverine also produces the same effect. Caffeine and, to a less degree, digitalis, alkalinize the urine. He found clinically and experimentally that diseases of the tubuli (nephrosis) prevent the elimination of acids; disease of the glomeruli inhibits the alkali excretion. Diffuse affections inhibit both. Vagotonia may cause a rigidity (*Nierenstarre*) on the alkaline side, sympathicotonia an acid urine.

Surgery and Function of Kidneys.—Rehn has been impressed by the discrepancy between the rarity of metastases from an untreated hypernephroma and their extreme frequency after radical operations. He attributes this to the rough handling of the kidneys during the operation. They can be avoided by exposing the renal vein first—instead of last—and throwing a provisional ligature around it before drawing out the kidney. He cured a patient whose tumor had grown through the renal vein into the vena cava. If the other renal vein reaches the cava proximad, the latter may be ligated. Otherwise the other renal vein must be sutured into the stump of the cava. In nephrotomy he prevents the dangerous late hemorrhage (in 19.5 per cent of the Mayo statistics, he quotes) by incision in Zondek's or more rarely Marwedel's plane, exact suture, provisions for good drainage of the pelvis, and—what is very important—nephropexy to avoid stasis of blood.

Zentralblatt für Chirurgie, Leipzig

53: 65-128 (Jan. 9) 1926

Skin Hemorrhages After Compression of a Leg. R. Morian.—p. 66.
Internal Male Pseudohermaphroditism. S. Davidovic.—p. 70.
Splint for Fractures of the Legs. F. Matt.—p. 72.
Extension Apparatus. T. Fohl.—p. 76.
Hemangioma of the Breast. B. Lubarsky.—p. 77.
An Orthopedic Shoe. G. Gabriel.—p. 80.
Surgical Correction of Gastroptosis. O. Orth.—p. 84.
*Fat Infiltration of the Omentum. G. Brossok.—p. 86.
*Incarcerated Juxtavesical Hernia. Kudrnáč.—p. 88.
"Surgery of Scoliosis." H. von Baeyer.—p. 90.

Fat Infiltration of the Omentum.—Brossok observed one case of the syndrome described by O. Maier: The obese patient had pains in the abdomen, especially in the erect posture, and was constipated. She recovered after resection of a total of 340 Gm. of her abnormally fat omentum. Traction from the abnormally heavy omentum had been responsible for the pains. They did not return after the resection.

Incarcerated Juxtavesical Hernia.—Kudrnáč's patient did not improve after surgical reposition of an incarcerated femoral hernia. The second operation revealed an incarcerated juxtavesical hernia, which also accounted for the incarceration of the former. The patient recovered after resection of the intestine.

53: *129-192 (Jan. 16) 1926*

Operative Closure of Artificial Anus. E. Sonntag.—p. 130.
Surgery of Hallux Valgus. T. Sazepin.—p. 134.
Treatment of Habitual Dislocation. S. S. Girgolaff.—p. 138.
*Surgery of Mitral Stenosis. A. Jarotzky.—p. 140.
Rapid Preparation of Casts. H. Magnus.—p. 142.
Autohemotherapy of Pneumonia. W. Graef.—p. 143.
Priority Claim in Autohemotherapy of Pneumonia. H. Reimann.—p. 144.

Surgery of Mitral Stenosis.—Jarotzky suggests to make an artificial communication between the auricles. It is known that a mitral stenosis complicated with an open foramen ovale has a comparatively good prognosis. The operation could be performed by the simple way of introduction of the instrument through the jugular vein.

Zentralblatt für Gynäkologie, Leipzig

50: 65-128 (Jan. 9) 1926

*Synergistic Analgesia in Labor. E. Vogt.—p. 65.
Pseudomyxoma and Heterotopic Proliferations. J. Koerner.—p. 83.
Granulosa Cell Tumors. F. Isbruch.—p. 89.
*Treatment of Ovarian Hemorrhages. P. Sippel.—p. 99.
Surgery in Treatment of Menstrual Disorders. W. Hannes.—p. 105.
"Treatment of Hemorrhagic Metropathy." Engl.—p. 111.
Hemorrhage from the Ovary. P. Klein.—p. 111.
Hemorrhage from Pregnancy Corpus Luteum. M. Dolynskyj and I. Benzion.—p. 117.

Synergistic Analgesia in Labor.—Vogt deals with the theoretical foundation and with the results of Gwathmey's method. It is contraindicated in diabetes, eclampsia without spasms and grave eclampsia, and in all forms of liver, kidney and colon disease. The results are excellent, but the method requires continuous medical supervision. Consequently it is not suitable for the private home, when the patient is temporarily under the care of only a nurse.

Treatment of Ovarian Hemorrhages.—Sippel treated successfully twenty girls suffering from profuse menorrhagias and metrorrhagias by transplantation of pieces of human ovaries. Ovarian cysts, which were found in some of the patients, were enucleated. In some of them the uterine mucosa during the hemorrhages was evidently not functioning. After the transplantation and return of normal menstruation, the uterine mucosa resumed the typical aspect and contained glycogen.

Zentralblatt für innere Medizin, Leipzig

47: 33-56 (Jan. 9) 1926

The International Malaria Congress at Rome. Friedeberg.—p. 33.
*Occupational Injury and the Amyostatic Syndrome. J. Löwy.—p. 41.

Occupational Injury and the Amyostatic Syndrome.—Löwy reports two cases wherein a trauma provoked or aggravated Wilson's disease.

Časopis lékařů českých, Prague

65: 1-36 (Jan. 1) 1926

The Cancer Problem. R. Kimla.—p. 1.
*Hydrophobia from Fixed Virus? L. Syllaba.—p. 7.
*Acute Tuberculous Sepsis. J. Pelnář.—p. 12.
*Drainage of the Ventricles of the Brain. A. Váňa.—p. 20.
Treatment of Epilepsy. V. Vondráček.—p. 24.

65: 37-72 (Jan. 8) 1926

Surgery of the Heart. J. Diviš.—p. 37.
Volvulus of the Cecum. J. Podlaha.—p. 40. C'td.
Cultivation of Vaccine Virus. K. Urbánek.—p. 47. C'td.
Pathology of Aphasia. A. Heveroch.—p. 56. Begun p. 16.
Kolmer's Extract. B. Tomášek.—p. 63.

Hydrophobia from Fixed Virus?—Syllaba reports a case of ascending paralysis in a woman subjected to preventive vaccination against hydrophobia because of a bite of an animal. He discusses the etiology, and is inclined to attribute the syndrome to the inoculations rather than to an original infection mitigated by these inoculations. The patient is improving.

Acute Tuberculous Sepsis.—Pelnář reports a case of a high fever in a boy. The appetite was good. Examination revealed only an enlargement of the bronchial lymph nodes. There was a slight increase in neutrophils, with shifting to the left, and an eosinophilia. The tuberculin reaction and Besredka test were positive. Landouzy had recognized the tuberculous nature of such a syndrome, and called it "typhobacillosis" because of a resemblance to typhoid. The acute stage may lead to death or may be followed by localizations of the process, which may also be fatal, as it was in this case.

Drainage of the Ventricles of the Brain.—Váňa drains the cerebrospinal fluid in hydrocephalus into the infratemporal fossa. The method avoids the swelling of the eyelids which is an unpleasant by-effect of Hildebrand's operation.

Prophylaktitcheskaia Medicina, Kharkov

4: 1-202 (Dec.) 1925. Partial Index

Variations of Bacilli and Their Significance in Epidemiology. I. Gakh. —p. 15.
Subneutral Toxin-Antitoxin Mixture in Immunization Against Diphtheria. M. Gluzman.—p. 24.
The Dying Out of Epidemics. D. Zabolotny.—p. 34.
*Vaccination Against Scarlet Fever. E. Popoff.—p. 45.

Vaccination Against Scarlet Fever.—Prophylactic vaccination against scarlet fever was applied by Popoff in 790 children, from 5 to 15 years old. The vaccine was prepared by the Gabrichevsky or Zlatogoroff method. A total of 1,866 injections were made, in most of the children three injections subcutaneously. The vaccination induced a reaction presenting a "scarlatinoid syndrome." General uneasiness appeared four or five hours after the injection, followed soon by a marked local reaction, sometimes fever. A rash became manifest in some of the children in fifteen or twenty hours, accompanied by redness of the tongue and tonsils, exceptionally by swelling of the glands. All the pathologic signs disappeared in two or three days, and the child recovered completely. The reaction seemed more pronounced in boys than in girls. Only five of the vaccinated children contracted scarlet fever; one after two and four after three injections. While the percentage of scarlet fever cases among the vaccinated children was 0.63, among the nonvaccinated it was over 7. The vaccine did not induce any persisting disturbances, and therefore, Popoff says, it may be considered as harmless.

Vestnik Microbiologii i Epidemiologii, Saratov

4: 3-92, 1925. Partial Index

The Coccidia Question. V. Yakimoff and V. Vasilevskaia.—p. 9.
*Gonococcus Antigen Reaction. S. Boru and S. Sherishorina.—p. 47.
*Vaccination Against the Staphylococcus. E. Korobkova and E. Rosanova. —p. 49.
Experimental Gonorrhea in Rabbits. S. Boru and S. Sherishorina.—p. 47.

Gonococcus Antigen Test.—Boru and Sherishorina observed six infants, from 2 weeks to 2 months old, with gonococcal ophthalmia. The reaction to an intradermal injection of gonococcus antigen was positive in all of them. The injections were repeated eight or ten times during two months, till the reaction became negative. The appearance of a negative reaction coincided with the vanishing of the eye discharge and the disappearance of the gonococcus from smears and cultures.

Oral Vaccination Against the Staphylococcus.—Korobkova and Rosanova tried staphylococcus vaccine, by mouth, in treatment of furunculosis, after experiments on rabbits and on themselves had proved the method to be harmless. The vaccine, prepared from about nineteen different strains of staphylococci, was sterilized by exposure to heat or formaldehyde. A single dose of the emulsion of powdered bacteria contained from 75 to 100 thousand millions of staphylococci. One capsule of the vaccine was taken, fasting, on alternate days, in a little milk, waiting half an hour at least before eating afterward. Among 102 patients, aged from 4 months to 60 years, twenty-eight had furunculosis of two years' standing or more; the remaining eighty-six, only for two or three months. No more than fifteen or sixteen doses were needed as a rule. If this failed, then an autovaccine was used. There was no local or general reaction to the vaccine. The treatment proved effectual in 88 per cent of the cases. Improvement was manifest after four or five doses. The agglutination test was negative in ten serums examined.

Acta Chirurgica Scandinavica, Stockholm

59: 439-564 (Jan.) 1926

Retrograde Incarceration of the Ileum. A. Rosenfeld.—p. 439.
Lymphangioma of Spermatic Cord. A. Rosenfeld.—p. 447.
*Suprapubic Prostatectomy. E. Tengwall.—p. 455.
Surgery of Adhesive Pericarditis. M. Ljungdahl and E. Tengwall.—p. 480.
Surgery of Pituitary Tumors. R. Lund.—p. 491.
Sedimentation Test in Surgery. A. Troell.—p. 523.
*Subphrenic Abscess with Vomited Gallbladder. B. Fernström.—p. 534.
Embolism of Popliteal Artery. A. Odelberg.—p. 540.
*Epileptiform Spasms in Cervical Paravertebral Anesthesia. O. Römcke. —p. 545.

Suprapubic Prostatectomy.—Tengwall reports a mortality of 10.8 per cent in his 250 cases of suprapubic prostatectomy. Epididymitis occurred in 23 per cent. He describes his technic in detail.

Subphrenic Abscess with Vomited Gallbladder.—Fernström opened a subphrenic abscess containing gallstones. The necrotic gallbladder had been expelled in vomit, together with blood, before the intervention. The patient recovered.

Epileptiform Spasms in Cervical Paravertebral Anesthesia.—Römcke describes two cases of grave epileptiform convulsions provoked by cervical paravertebral anesthesia, as preparation for thyroidectomy. The accident was probably due to intradural injection by way of the intervertebral foramen. To avoid this, it is necessary to refrain from introducing the needle in front of the tuberculum posterius.

Hygiea, Stockholm

87: 817-848 (Nov. 30) 1925

*Calcified Brain Tumors. E. Melkersson.—p. 817.
Prostatectomy Experiences. E. Tengwall.—p. 829. C'en.

Calcified Brain Tumors.—Melkersson reports two cases. Symptoms at the age of 12 had been interpreted as a tubercle in the brain, but they soon subsided nearly completely. At 20, ataxia in the left arm, dizziness, with occasional headache, developed, and the roentgen rays showed a calcified tumor in the left tentorium. The condition then improved somewhat, and has kept stationary for nine years to date. Melkersson intends to propose an operation if the symptoms show a progressive tendency. In the second case, spastic left hemiplegia developed at the age of 9 with a febrile course for a time. The symptoms gradually improved and now, at the age of 16, there is no doubt of an intracranial calcified tumor, almost inevitably of tuberculous origin, affecting vision and the sense of smell, with a suspicion of multiple foci. He regards the stationary course for years in both cases as almost equivalent to a cure with a brain tumor.

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*Tetany After Operations on the Thyroid. N. H. Brodersen.—p. 1293.
*Surgical Treatment of Gastric Cancer. F. S. Hanssen.—p. 1305.
*Duodenal Ulcer K. Nicolaysen.—p. 1318.
*Results of Gastro-Enterostomy. K. Nicolaysen.—p. 1322.
Internal or Surgical Treatment of Hemorrhagic Gastric Ulcer. J. H. Berner.—p. 1329.
Malaria and Protein Therapy of Paresis. H. A. T. Dedichen.—p. 1335.
A Case of Eunuchoidism. R. R. Jørgensen.—p. 1339.

Tetany After Operations on the Thyroid Gland.—In Brodersen's experience there were five instances of consecutive tetany among 647 thyroidectomy cases, including 346 of simple goiter with 0.3 per cent cases of tetany, and 1.3 per cent in the hyperthyroidism cases. The injury to the parathyroids must have been transient in two of the cases as the tetany soon subsided; in another case it persisted for a year before subsiding, and in the two others the tetany has persisted practically unmodified to date except as it is kept under control with calcium treatment; 6 and 11.5 Gm. of calcium were required at first. These two graver cases were in patients of 17 and 21. Parathyroid tablets gave no relief. One patient has been able to suspend the calcium and has been free from symptoms for a year and a half; the other still has to take the calcium daily but has been able to reduce the dose to a teaspoonful of calcium lactate once a day.

Gastric Cancer.—Summarizing the outcome in 280 cases of gastric cancer, Hanssen states that the patients survived on an average 658 days after gastrectomy, and 225 days after gastro-enterostomy alone. In the fifty-one gastrectomy cases, 29.4 per cent of the patients survived for three years or more but only six are healthy now, from over three to fifteen years since the intervention. Eight died from recurrence of the cancer, from three to seven years later, and one of the survivors now has pernicious anemia, seven years afterward.

Logical Treatment of Duodenal Ulcers.—Nicolaysen presents evidence to sustain the view that a chronic ulcer in the stomach is the same ulcer all the time, but in the duodenum the ulcer heals and a new one develops, repeating the process indefinitely. Duodenal ulcers do not share the chronic character of gastric ulcers; the predisposition is what persists. Hence, in operating, regardless of the findings in the duodenum at the moment, a third of the stomach should be resected as the only means to conquer the predisposition. He warns expressly against mere gastro-enterostomy for duodenal ulcer, as this may not reduce the acid secretion.

The Action of Gastro-Enterostomy.—Nicolaysen relates that analysis of fifteen patients recently treated by gastro-enterostomy and of twenty-three with an interval since of five to ten years, demonstrates that the benefit is proportional to the reduction of the acidity. The reduction of the acidity generally coincides with rapid evacuation of the stomach. Filling up of the antrum always coincides with considerable persisting acidity. All of the eleven who were not cured by the gastro-enterostomy years ago still have persisting acidity; the majority of the cured have no free hydrochloric acid.

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HELIOTHERAPY AT LOW ALTITUDES

ITS SIGNIFICANCE AND TECHNIC *

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That the rays of the sun exerted an especially favorable influence on wounds and particularly on tuberculous diseases of the extremities was announced by Bernhard in 1902. His original application of this method of treatment consisted simply in the exposure of the affected parts to the sun's rays. The application of this method to the whole body and its popularization are to be credited to Rollier, who established his clinic at Leysin, Switzerland, in 1903. As the result of the remarkable cures which he was able to show, and in consequence of the appearance of his book in 1915, the treatment of surgical tuberculosis by heliotherapy has been the subject of much discussion by the medical profession. It may be said that the point has been reached at which any defense of the value of this method in tuberculosis of the bones and joints may be considered a matter of supererogation. But there are a number of questions involved in the application of heliotherapy on which opinions still vary, and some of them become of primary importance as the necessity arises for the employment of heliotherapy in environments which differ radically from that in which Rollier developed his method with such remarkable success. By Rollier, himself, great stress is laid on the importance of his Alpine environment, not only because of the purity of the air, but also because of the fact that the sun's rays are here richer in their content of the ultraviolet rays. These rays, invisible to the eye, are to his mind the chief source of the potency of the sunshine in the cure of disease. They are filtered out to a considerable extent by the atmosphere of lower altitudes, and this accounts for a lessened potency of the sun's rays near the sea level.

The use of the principles of heliotherapy as laid down by Rollier has become well nigh universal, and it is most unusual to find an article dealing with the treatment of surgical tuberculosis which does not speak of this method approvingly. This would, in itself, seem to be an acknowledgment that it is possible to offer patients the advantages of heliotherapy far away from an environment like that of Rollier's Alpine sanatorium. Indeed, it must be said that some of the most enthusiastic advocacy of Rollier's methods comes from men who are working in situations as different from his as can well be imagined. Such are Gauvain in England, Kisch in Germany, Lo Grasso of Perrysburg, N. Y., and Hyde of Akron, Ohio. All of them are agreed that it is possible to do the same things for surgical tuberculosis in low altitudes as Rollier is able to do in the Alpine highland. Kisch, to whom reference will be made later, asserts that, in the institution at Hohenlychen near Berlin, it is possible for him to attain cures as rapidly as is the case at Leysin, and that his statement is made with a thorough familiarity with the situation here by reason of several weeks' residence for study. He holds that there is a distinct advantage in having the tuberculous patient cured in the very same environment in which his disease was acquired and that it may be assumed possible, in this way, to avoid many of the recurrences that are otherwise to be expected. There is every reason, therefore, to strive for the attainment of procedures of highest possible efficacy which may be employed in our altitude, near the patients' homes; perhaps, indeed, in the homes of some of the patients.

What are the conditions that must be met in order to make practical the employment of heliotherapy in low altitudes? It may not be denied that the conditions are in few places as favorable for heliotherapy as they are at Leysin or, indeed, in many other mountainous situations. Even at Leysin there are, especially in the winter months, numerous periods when the hours of insolation must be greatly curtailed because there is no sunshine but, not seldom, heavy clouds and a moist atmosphere. Thus, we find from Rollier's own figures that, whereas there were in the month of August 227 hours of insolation possible, as an average of five years, for the month of December the average was 109, for February 117 and for November 126. The records of the United States weather bureau for thirty years show that December would give us about 65 per cent of this number of hours of possible insolation in Cincinnati, and in Buffalo only about 40 per cent. If we assume that six hours of insolation daily would be an average maximum, 180 hours would represent an average maximum for a month. Leysin would therefore offer only 60 per cent of the possible maximum of insolation in December, and it should appear highly desirable to find a substitute for this deficiency. It would seem even more necessary to do this for climates and altitudes such as ours. Moreover, it must be noted that high winds and highly inclement weather furnish additional obstacles, making it necessary to keep the patients indoors for days at a time unless the installation and location are of unusually fortunate character. In order to meet these contingencies, a substitute for the sunshine would seem most desirable even at Leysin and very much more so for localities similar to ours. It has been sought to provide for this need by using different forms of artificial light.

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* Read before the Academy of Medicine of Toledo, Ohio, Dec. 4, 1925.

FAVORABLE ACTION OF ULTRAVIOLET RAYS

The moment we assume the desirability of finding a source of light to use as a substitute for the sun, we are confronted with the need for an explanation of the favorable action of the sun's rays. It has been already remarked that, by Rollier, the therapeutic action is ascribed chiefly, if not altogether, to the ultraviolet rays of the spectrum. This is done on the basis of certain scientific observations which, for the present, I shall not discuss. It will be remembered, however, that the superiority of high altitudes for the purposes of heliotherapy is attributed by Rollier to the fact of richness in ultraviolet rays: rays that are filtered out in large measure by the lower strata of the atmosphere, near the sea level. On the other hand, it is here necessary to note that for Rollier and those who have followed his methods, the measure of success that may be expected in the individual case lies in the degree of pigmentation of the skin that can be secured by means of continued insolation. This conclusion is derived from clinical observation and data; its explanation is not determined and is a matter of differing opinions. At this juncture it may not be amiss to quote Gauvain,[1] who says:

> Though light treatment has been extensively scientifically investigated, especially during the last few years, it should be remembered that it owes its origin to shrewd clinical investigation and its justification to clinical experience.

That the exposure of the body to the rays of the sun produces degrees of pigmentation which vary within very wide limits according to the skin characteristics of different individuals there is no doubt whatever; laymen know this quite well. Whether the benefit to be derived from light treatment in tuberculous and other diseases stands in a definite relationship to the degree of pigmentation that is obtainable is quite another matter. It has been stated by Rollier that this is the case, and that blonds may, accordingly, be expected to respond less rapidly and to a less satisfactory degree than brunettes. It is certainly true that one must proceed much more cautiously with the exposure of blonds, lest they react with a solar dermatitis which is most annoying and necessitates a considerable delay in their response to treatment. On the other hand, any one who has had long experience with heliotherapy will be able to recall the cases of very blond patients who made relatively rapid recoveries and without having attained degrees of pigmentation comparable to those of other patients who have been less fortunate in this respect. I can also cite cases in which the pigmentation became of the deepest and in which it was necessary to record a standstill at this very period. Nay, more, it is possible to point to patients in whom pigmentation was deep and whose original disease was well advanced in healing, in whom other foci of tuberculous character with definite destructive nature developed under our eyes. This would make it appear that although pigmentation must be regarded as an undeniable response of the organism to the treatment, it is perhaps not to be relied on as an accurate gage of the patient's progress toward recovery. For this we must still look to the condition of the affected part itself as revealed by careful examination and, in the case of bones and joints, to the roentgen-ray appearances. That we demand satisfactory improvement in the general condition of the patient also goes without saying. It seems likely that it will ultimately appear that the alteration of the patient's blood picture is much the most reliable measure of the defense reaction which the patient is making.

THE QUARTZ MERCURY ARC LAMP

It is obviously of great importance to ascertain, if possible, to what particular element the improvement and cure of patients is due that has been observed to take place from heliotherapy. Only in this way can we proceed to improve our technic and, what is equally important, only in this way can we work rationally for a substitute for the sun; a means by which the treatment may be administered without the interference of cloudy weather in summer and the longer periods of sunless days in the winter months. The ascription of the virtues of heliotherapy to the ultraviolet rays of the spectrum has been followed by the development of artificial sources which make available these rays in quantity greater than is the case in natural sunlight. Such are the various forms of quartz mercury arc lamps. That the use of these lamps is followed by reactions on the part of the skin and by definite changes in the chemical composition of the blood has been shown. It is not difficult to produce an erythema, or even a dermatitis, by the use of quartz lamps at a short distance or by long continued exposure. It is also possible to determine, especially in children, that the calcium content of the blood is increased. The statement is also made that pigmentation of the skin takes place. To this statement we must apply ourselves in a critical manner.

Although most of the sources of artificial illumination produce ultraviolet rays to some extent, the fact that such light is usually generated within a bulb of glass renders them unavailable. The ultraviolet rays of the spectrum are most effectively filtered out by ordinary glass. For this reason the sun treatment of disease should not be given with the protection of ordinary window glass in inclement weather, or in the presence of very low temperatures, as might otherwise be highly desirable. Patients who are thus exposed do not acquire the characteristic pigmentation, and it is asserted that they also fail to receive the benefits of local and general character which follow the exposure to the sun's rays without such interference. It has been known for some time that quartz permits the passage of the ultraviolet rays. With the discovery of methods of fusing quartz and thus fashioning bulbs for the generation of electric ignentation—surely not, however, by any one whose xperience with insolation has made him acquainted vith the deep brown which the sun's rays produce in nost skins. After trials extending through two years, embracing a number of patients and carried out with the desire and hope of success, I have not been able to observe the production of true pigmentation in any case by means of the quartz lamp. I have observed patients of others who were supposed to present pigmentation thus produced without being able to verify it in any case. Of perhaps still greater significance is the fact that in patients who had acquired a deep pigmentation from sun exposure, it was not possible by means of the quartz lamp to prevent this pigmentation from fading away. Nor was it possible to maintain the general improvement obtained from the sun exposures, once these were withdrawn, in this manner. In making this statement, I am in agreement with Kisch and others of experience.

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We would thus seem entitled to say that ultraviolet rays alone are not to be considered as even a fair substitute for the rays of the sun in surgical tuberculosis. I am aware that in rachitic children exposure to the quartz lamp has been observed to result in definite deposition of lime salts in the bones, as shown by the roentgen ray, and that definite blood changes may be noted. These consist chiefly in the increase of the blood calcium and some increase in the number of erythrocytes. These are not to be compared with the marked accumulation of red cells and the striking increase in hemoglobin percentage regularly to be found in patients that improve as the result of insolation. Most important, however, is the fact that such improvement, of clinical character, cannot be produced in tuberculous patients by means of the quartz lamp. This statement is made unequivocally after trial with two well known types of lamp. It is not possible to show, at present, that ultraviolet rays of artificial production have marked curative value in the treatment of tuberculosis of bones and joints. This statement is not to be interpreted as meaning, however, that the quartz lamp has no therapeutic value, but that its action is superficial, and that it is unsatisfactory as a substitute for the sunlight in the particular class of cases with which we are at present concerned. If this position can be maintained, it would seem most unfortunate to disseminate the impression that the contrary is true and thereby to bring it about that time is lost for patients with deeper forms of surgical tuberculosis by treating them with quartz lamps, in the belief that the more difficult tasks of insolation technic may thereby be substituted without loss of efficiency. Unfortunately, not only is this going on, but the more special orthopedic management of these cases is also being omitted as being unnecessary. This combination of errors must constitute nothing less than calamity for many a patient. It is one that is none the less inevitable because it is not at once apparent, by reason of the insidious and slow character of the advance that is the mark of tuberculous infection of organs more deeply situated.

THE HEAT RAYS

The rejection of the quartz lamp as a satisfactory substitute for the sun is not to be accepted as a gesture of despair, however, nor as an assumption that one is not to be found. If we turn to the work of Kisch, already referred to, we shall find the definite statement that he has found it possible to accomplish results in every way comparable to those obtained at Leysin in the neighborhood of Berlin, at an altitude approximating that of sea level. He goes further with the engaging statement that there is distinct advantage for the tuberculous patient in being cured in an environment not very different from the one in which the disease was acquired, because the tendency to recrudesce, or recur, is thereby greatly diminished. Kisch believes that the most important element of the solar light, in its therapeutic aspect, is to be found in the heat rays: the red and infra-red portion of the spectrum. He believes that their activity stands in direct relationship to the surface temperature produced, and that this must approximate that which is produced by the sun itself. He requires, on this account, surface temperatures varying between 107 and 117 F. (from 42 to 47 C.). These he produces by means of lamps that are especially rich in heat rays; the electric current or the oxyacetylene blast are the means of their activation. He maintains the possibility of producing by this means pigmentation which is comparable to that resulting from insolation both in hue and in intensity. As a protagonist of Bier's views on the curative value of hyperemia, it is not strange that he should ascribe the virtues of his apparatus to this mode of action. He attempts the measurement of the degree of hyperemia that is achieved by the amount of blood escaping from skin punctures made under identical conditions, as nearly as possible.

It is not possible from his description of the apparatus to tell to what extent rays other than the heat rays are produced. This seems to me unfortunate, for the reason that there is no difficulty in producing the same degree of surface heat by means of the rays of the sun shining through ordinary glass, in summer; yet such exposure is not credited with the possibility of producing pigmentation of satisfactory character. In view of past experience it does not seem justifiable to ascribe the virtues of sunlight either to ultraviolet rays or to heat with such predominance as to make either of them an acceptable, practical substitute. Indeed, with the announcement of the discovery of the so-called penetrative rays by Millikan, one wonders whether we know enough about the rays of the sun to make a truly scientific analysis. For the present, at least, it seems necessary to regard sunlight in its normal composition as something we require to imitate, rather than to seek to generate artificially and in profusion in only certain of its known characters. This is a task of no mean difficulty and one that calls for the combined activity of physicist and surgeon and a truly scientific attitude on the part of both. The problem involves not only the search for a particular kind of light but, in order to be practical on a large scale, an installation that will make possible the treatment of a number of patients at one time.

HELIOTHERAPY IN TUBERCULOUS CONDITIONS OF THE JOINTS

Although I have had a deep and active interest in the problems of heliotherapy for a number of years, I have naturally never been able to overlook the fact that my approach to the whole matter has been primarily, perhaps I had better say definitely, that of an orthopedic surgeon. If I have been aware of the shortcomings of our methods in treating bone and joint tuberculosis in the past, I have no less been mindful of that which was accomplished and which was good. I am therefore unwilling that all our earlier conceptions should be cast into the discard, in our enthusiasm for a new method, without good and sufficient reasons, or in an attitude that is uncritical. The emphasis that has properly been laid on the view that these patients are, above all, the

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Before these are spoken of, it must be emphasized that in the quartz mercury vapor lamp the so-called chemical, or heat, rays, belonging to the red or infra-red part of the spectrum, are almost entirely lacking. If the skin is exposed to the quartz lamp sufficiently, say from ten to fifteen minutes at a distance of about 60 inches, there will soon follow a definite erythema, which is more or less intense according to the length of the exposure. By repetition it may be made quite severe and irritating. By following the technic that is usually recommended, this erythema becomes continuous and the skin acquires a hue unquestionably darker than before. It is spoken of frequently as a ignmentation—surely not, however, by any one whose xperience with insolation has made him acquainted with the deep brown which the sun's rays produce in most skins. After trials extending through two years, embracing a number of patients and carried out with the desire and hope of success, I have not been able to observe the production of true pigmentation in any case by means of the quartz lamp. I have observed patients of others who were supposed to present pigmentation thus produced without being able to verify it in any case. Of perhaps still greater significance is the fact that in patients who had acquired a deep pigmentation from sun exposure, it was not possible by means of the quartz lamp to prevent this pigmentation from fading away. Nor was it possible to maintain the general improvement obtained from the sun exposures, once these were withdrawn, in this manner. In making this statement, I am in agreement with Kisch and others of experience.

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It is not possible from his description of the apparatus to tell to what extent rays other than the heat rays are produced. This seems to me unfortunate, for the reason that there is no difficulty in producing the same degree of surface heat by means of the rays of the sun shining through ordinary glass, in summer; yet such exposure is not credited with the possibility of producing pigmentation of satisfactory character. In view of past experience it does not seem justifiable to ascribe the virtues of sunlight either to ultraviolet rays or to heat with such predominance as to make either of them an acceptable, practical substitute. Indeed, with the announcement of the discovery of the so-called penetrative rays by Millikan, one wonders whether we know enough about the rays of the sun to make a truly scientific analysis. For the present, at least, it seems necessary to regard sunlight in its normal composition as something we require to imitate, rather than to seek to generate artificially and in profusion in only certain of its known characters. This is a task of no mean difficulty and one that calls for the combined activity of physicist and surgeon and a truly scientific attitude on the part of both. The problem involves not only the search for a particular kind of light but, in order to be practical on a large scale, an installation that will make possible the treatment of a number of patients at one time.

HELIOTHERAPY IN TUBERCULOUS CONDITIONS OF THE JOINTS

Although I have had a deep and active interest in the problems of heliotherapy for a number of years, I have naturally never been able to overlook the fact that my approach to the whole matter has been primarily, perhaps I had better say definitely, that of an orthopedic surgeon. If I have been aware of the shortcomings of our methods in treating bone and joint tuberculosis in the past, I have no less been mindful of that which was accomplished and which was good. I am therefore unwilling that all our earlier conceptions should be cast into the discard, in our enthusiasm for a new method, without good and sufficient reasons, or in an attitude that is uncritical. The emphasis that has properly been laid on the view that these patients are, above all, the subjects of a disease that should be considered constitutional rather than simply local is one toward which I have always been especially sympathetic. Heliotherapy, which represents the application of the hygienic or indirect method at its apogee, has brought with it the tendency to cast aside many of our previous notions in a manner somewhat relentless and, I may even say, ill considered. I refer particularly to the assumption, now so often made, that the desideratum in recovery should always be the preservation of motion in diseased joints. The origin of this view was, doubtless, the fact that the mechanical methods of fixation that formerly constituted the complete treatment for many surgeons interfered with accessibility of the sun's rays to the diseased part. This is particularly true of plaster dressings. The discarding of apparatus that restrained motion had as its result the preservation of motion in many joints that must otherwise have become stiff after recovery. This has been looked on as something new, but also as something that should always be striven for. I am convinced that this is erroneous in both respects. The earlier American orthopedic surgeons, headed by Davis, Taylor and Sayre, believed that their mechanical apparatus should permit the retention of that amount of motion which was determined by the amount of muscle spasm, and that recovery might very often be expected, in consequence, with the preservation of a considerable arc of motion. "Motion without friction" was their motto. Not seldom the motion in the recovered joint approached closely to the normal. We shall, of course, have to discount the fact that many joints which were so treated and which retained considerable motion were not tuberculous at all. Even today, with the roentgen ray and the refinements of modern diagnosis, we are at times not certain of the tuberculous nature of joint disease. About twenty-five years ago attention was called by several surgeons to the fact that tuberculous joints which were treated by methods permitting motion recovered more slowly than those which had been kept carefully immobilized; that such joints very often recovered with fixation in positions of marked deformity. Furthermore, it was observed that joints which recovered with motion of varying degree were especially prone to recrudescence of the disease, and that the preservation of relatively small amounts of motion was frequently associated with pain and greater disability than if complete ankylosis had resulted. For these reasons, the feeling became widespread that ankylosis in good position represented the best attainable result and offered the best prospect for permanent immunity from further suffering and disability.

The results of continued study under more advantageous conditions have made it necessary, for many of us at least, to recede from this position. There can be no question that numbers of joints, unquestionably tuberculous, have been made to recover with the preservation of motion and sometimes with practically normal motion, and that they have remained well and functionally efficient for very long periods of time. These cases will stand the test of any examination, including the roentgen ray. But it is also true that some of them have been produced without heliotherapy and even before its inception. Heliotherapy is a marvelous addition to our resources, but it works no miracles; it brings to our aid no biologic resources of unprecedented character; it produces no new cartilage in place of that which has been utterly destroyed; it makes the processes of cicatrization no less necessary than they have been hitherto. At the same time, by its benevolent action cicatrization is made more sure and more rapid. When destruction of four or five vertebral bodies and the consequent collapse have brought about a gibbous deformity, we may hope to bring about fusion of the contacting, diseased surfaces more rapidly and more surely than used to be possible without heliotherapy at our disposal. By postural methods we are enabled to improve greatly the appearance and even the function of the spine through corrections above and below the actual seat of disease. It is wrong to permit the dictum to go forth that it is possible, by means of heliotherapy or otherwise, to bring about the regeneration of an amount of bone equal to the bulk of two or three vertebral bodies when they have been destroyed. No such demonstration has yet been made, nor is it likely to be. Yet this would be a minimal requirement in order to maintain the correction of a considerable gibbous deformity even if it could be brought about by nonoperative methods. At the same time, it has been made comparatively easy and certain to circumvent the formation of such deformity and to restore the patient to health that is both vigorous and abiding, provided only that the disease is brought under modern treatment early, and the control persisted in sufficiently long. In this case, not only may we confidently look for a recovery that is much more likely to take place than under the older methods, but we may surely expect healing in a much shorter period than we were accustomed to anticipate in the days of cures that were both more doubtful and were accompanied with impairments of function that we can no longer extenuate.

I cannot conclude this paper without a plea that the virtues of heliotherapy be accepted by the profession, free from a chauvinistic spirit. The unwisdom of such a spirit has been shown only too often in the history of our profession. On the contrary, we are called on to adopt this newer method with enthusiasm but with strict individualization; we are called on to study the patient's condition from the point of view of pathology without rejecting summarily all that has been learned in the experience of the past. We shall do well to hesitate in accepting as dogma that which is in violent opposition to the lessons learned from the scientific study of well observed phenomena by men of broad training and mature judgment. Whether we shall strive for the preservation or extinction of joint motion must not depend on a dictum derived from even a large experience with a single method, or even on the fact of our being able to secure it more easily or uniformly by that method. Now, as before, it must depend on the careful consideration of a number of factors, involving the answer to such questions as:

1. Which joint is involved?
2. To what extent is it involved?
3. What is the patient's general condition; has he pulmonary or other visceral disease?
4. What is the patient's occupation; his social condition and responsibilities?
5. What is his age?
6. To what kind of environment must he be returned after treatment, and to what extent can his behavior be controlled after discharge from active care?

Time does not permit the detailed discussion of these various factors in their reciprocal relations. I can only say that, with a full appreciation of the great advantages of heliotherapy in mind, I should no more hesitate to advise an operation for tuberculosis of the knee in a man of 35 who requires to be returned to wage earning as soon as possible today than I should have done fifteen years ago. I should feel the same about his tuberculous elbow, provided always that he was free from visceral disease and likely to make a rapid recovery from operation. In the one case I should expect to secure the extinction of motion, and in the other I should hope to preserve it. Both these things I have done often enough to know with fair probability what would be the practical outcome.

Let us, then, accept heliotherapy as a great addition to our resources, particularly in the tuberculous diseases of children, and with a fair recognition of its limitations as well as its virtues. In this way we shall be able to point to a balance on the profit side of the account, of the greatest possible magnitude.

Northwest corner, Seventh and Race streets.

TREATMENT OF HOOKWORM DISEASE IN PREGNANT WOMEN WITH CARBON TETRACHLORIDE *

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Lambert[1] has recently called attention to pregnancy as a "condition in which the dire effects of hookworm disease are dramatized most vividly" and calls attention to the number of deaths annually of mother or child or both as a result of hookworm disease occurring in Fiji. Darling,[2] working in the same region some years ago, found that the average hemogloblin estimation for pregnant women was 15 per cent lower than that for the general population. In Paraguay, I have found a hemoglobin percentage of 64.4 for the general population (2,491 examinations), whereas the average for pregnant women (thirty-nine examinations) is but 51, which represents a loss of 13.4 per cent.

In campaigns for the treatment of hookworm disease in tropical countries, where fecundity begins early and birth control is unknown, the pregnant woman has formed a large part of that group, "not treated for medical reasons," and has not only failed to be freed from her infestation at a time when her vitality was most severely taxed, but has also remained as a dangerous source of reinfestation to the treated community.

Previous to the introduction of carbon tetrachloride, pregnancy was considered as a contraindication to anthelmintic medication, thymol, oil of chenopodium and beta-naphthol all being on the proscribed list.[3] Lambert reported that he had begun treating pregnant women with carbon tetrachloride in June, 1922, and that during the following four months no abortions had occurred following the treatment of some hundreds of women. No details are given as to the length of time these cases were under observation following treatment. Soper[4] more recently reported the treatment of sixty-three women, pregnant from two to eight months, with 2.4 cc. of carbon tetrachloride with no serious immediate consequences, although two abortions were noted, one ten days, the other twelve days, after treatment.

However, under date of May 3, 1924, Dr. F. L. Soper received the following in a personal communication from Dr. N. C. Davis:

> In our experimental work with dogs we made an observation which may be of interest to you; one animal delivered living pups prematurely and another at a rather early stage, apparently influenced by the administration of tetrachloride. Of course the dosage was higher (0.4 to 1.0 cc. per kilogram) than you will ever have occasion to use, and suggested to me the post-treatment study of pregnant women.

During some fifteen months in which more than a hundred thousand of the general Paraguayan population were treated with a combination of carbon tetrachloride and oil of chenopodium by the Campaña Sanitaria, all pregnant women were treated with carbon tetrachloride alone in dosage of 2.4 cc. with simultaneous purge of magnesium sulphate. Most of these cases were treated without antecedent medical examination, and the diagnosis of pregnancy was made in most cases by the patient herself. Of the patients so treated, I have been able to check up closely on 219. A further series of six cases were treated and carefully studied in the maternity hospital in Asunción. All of the cases entering this report were under observation for a minimum period of fifteen days following treatment; sixty-three cases were under observation until after delivery.

Table 1 —*Pregnancy*

Month of Pregnancy	No of Women Treated Once	No. of Women Treated Twice	Followed Until After Delivery	Abortions
1	1	..	..	..
2	21	7	3	1
3	40	16	8	3
4	25	11	4	..
5	31	8	5	1
6	38	12	8	..
7	28	4	9	..
8	32	6	21	..
9	7	2	5	..
Unknown	2	..	..	..
Total ..	225	66	63	5

Table 1 shows the distribution of pregnancy by months among the women receiving one and two treatments; second treatments were administered after an interval of fifteen days. Among the 291 treatments, second treatments being considered as separate cases, but five patients complained of symptoms worthy of note in the forty-eight hours following treatment; four of these vomited and one felt very dizzy. Sixty-three patients were followed through to delivery; in this group five abortions occurred (table 2).

Table 2 —*Abortions*

Month of Pregnancy in Which Treated	Times Treated	No of Days Elapsing Between Treatment and Abortion
2	2	10
3	1	8
3	1	20
5	1	12
7	1	29

In none of these cases did threatening symptoms develop during the first four days following treatment, and in no case was the abortion attributed to the treatment by the patient. None of the women aborting showed any of the symptoms of carbon tetrachloride poisoning.

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* This report is based on observations made during a cooperative campaign against hookworm disease in the republic of Paraguay, financed by the International Health Board and the National Department of Health of the republic of Paraguay

[1] Lambert, S M Carbon Tetrachloride in the Treatment of Hookworm Disease *Observations on Fifty Thousand Cases*, J. A. M. A **80**: 526 528 (Feb 24) 1923

[2] Darling, S T, Barber, M A, and Hacker, H P: Hookworm and Malaria Research in Malaya, Java and the Fiji Islands, Report of Uncinariasis Commission to the Orient, 1925 1927, pub 9, International Health Board

[3] Darling, S T Hookworm Disease, in Nelson Loose Leaf Medicine, 1922, pp 477 489

[4] Soper, F L Factors Which Should Determine the Selection of an Anthelmintic in a Geographical Area, Am J Hyg 5: 402 453 (July) 1925.

Table 3 shows the results of hemoglobin readings made on thirty-nine pregnant women of this group, together with the results of reexaminations of seventeen made at varying periods following treatment.

COMMENT

Data have been presented showing that pregnant women in all months may be safely treated with carbon tetrachloride without the production of dangerous symptoms in the days immediately following treatment. Although five abortions occurred in sixty-three patients followed to term, it is not apparent that there was a causative relationship existing between previous anthelmintic treatment and such abortions.

Pregnancy has been removed as a contraindication to anthelmintic medication in the treatment of more than a hundred thousand of the general population without untoward results. Since the general population was being treated with a mixture of carbon tetrachloride and oil of chenopodium, and since pregnancy was not considered as a contraindication to treatment but only as a condition for modifying treatment, the diagnosis of this condition being left to the patient, it was inevitable that some pregnant women, especially during the earlier months of pregnancy, should be treated with the mixture of the two drugs instead of with carbon tetrachloride alone. This is known to have occurred in some cases (not included in the group reported) and undoubtedly occurred in many others without untoward results. Although I believe that the dosage of 2.4 cc. of carbon tetrachloride is efficient in areas where *Necator americanus* is the offending agent, it may be found inefficient in areas where *Ancylostoma duodenale* predominates. Further observation and trial may prove that it is safe to use a mixture of oil of chenopodium and carbon tetrachloride in such areas in the treatment of pregnant women.

Table 3.—*Average Percentage of Hemoglobin Before and After Treatment*

No. of Cases	Percentage of Hemoglobin Before Treatment	No. of Patients Reexamined After Treatment	Average No. of Days Between Treatment and Reexamination	Results of Reexamination	Gain or Loss
3	30	.	.	..	....
5	40	4	22	54	+14
9	50	6	19	63	+13
12	60	5	21	66	+ 6
8	70	2	17	65	— 5
39	51	17	20	62	9.1

Although the number of cases presented is small and the periods between treatment and reexamination are short, the indication is that the pregnant woman reacts almost immediately to hookworm treatment, as indicated by an increase of hemoglobin.

SUMMARY AND CONCLUSIONS

1. Pregnancy need no longer be considered a contraindication to anthelmintic medication in areas where *Necator americanus* is the offending agent and carbon tetrachloride the anthelmintic used.
2. The use of a mixture of oil of chenopodium and carbon tetrachloride in areas where *Ancylostoma duodenale* predominates may be possible.
3. The pregnant woman reacts favorably almost immediately to anthelmintic medication.

COSMETIC DERMATOLOGY

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The dermatologist must be able to recognize the signs of general disease by their appearance on the cutaneous surface, to differentiate syphilitic from nonsyphilitic disorders in the presence of confusing serologic findings, and properly to diagnose malignant from nonmalignant growths on the skin. Yet the patient seeks other services from the skin specialist. The girl or older woman seeks relief from unsightly superfluous hairs. Many untrained persons offer this service; indeed, unscrupulous ones promise much more than can be given with honesty. The dermatologist may be bored with the idea of removing superfluous hairs, but if he does not do so the patient will seek some one less qualified.

At present, two modalities are available for the successful removal of hairs. The use of the galvanic current from dry batteries or from a generator set, about 3 milliamperes of current with the positive pole to the patient, and the negative pole to the needle (the alliteration of p to p, and n to n, may be noted) long enough so that a white ooze rises at the follicle into which the special needle has been introduced, is one way. The second one is the utilization of the high frequency current, which has no polarity, for the fraction of a second at relatively low amperage, say 200 milliamperes on short circuit across the poles. Each of these methods entails a separate operation: introducing the needle into the follicle. For the galvanic current, this must be absolute. For high frequency currents, this may not be so essential on theoretical grounds, owing to the cone effect of this current. For any one to use the roentgen ray for permanent alopecia or hypertrichosis seems foolhardy. The evidence of the permanent loss of hair means that the follicle cells have been impaired. This inhibition of growing cells is evidence of that overdosage of ray which comes in advance of the unsightly and dangerous, if not actually precancerous, conditions of scaliness, telangiectasia and atrophy. As far as general knowledge today is concerned, no roentgen ray has been found that can cause a permanent loss of hair without, in turn, giving rise to the possibility of the sequelae of overdosage.

Types of moles include the hard, fleshy, sessile mole and the soft, pedunculated mole. The latter seems to be multiple more often than the first variety, although if a person has one mole, he usually has more than one. Unpigmented moles offer no particular difficulty. Depending entirely on the site and size of the unwanted mole, one employs either the actual cautery (much more rarely now than previously), the high frequency current (bipolar, not monopolar) or galvanism. If the latter is utilized, multiple puncture with the needle through the base of the growth from different angles is practiced. High frequency is more successful, if only enough current is used completely to dehydrate the mole at the first and possibly only sitting. The growth may remain for a short time, so that when the blood supply is gone, the mole falls off without an ulcer and the resultant scar is minute, with a tendency to continue to shrink.

With pigmented moles, much more caution is desirable. Observation of unfortunate accidents indicates that it is not possible to tell in advance which cases of pigmented growths are of the melanoma group. I purposely avoid writing melanocarcinoma or melanosarcoma, as this morphologic point has not been agreed on by pathologists. In the main, the lower down on the body that one finds the pigmented mole, the greater the potentiality of its being a dangerous one. This accounts for the fact that of the thousands and thousands of pigmented moles removed from the face, few result in untoward dissemination of melanomas.

Hairy nevi are important for the cosmetic dermatologist. It is best to remove the hairs prior to trying to do anything with the nevus structure. The hairs are especially resistant to any form of therapy, otherwise. A wide range of possibilities in therapy, including carbon dioxide snow, liquid air, the high frequency current, radium and roentgen ray, are offered for nevi, as a group, and especially for the angiomas. In the spider nevi, with their central puncta and radiating lines, the actual cautery point is ideal, for after the central point has been obliterated, the radiating lines of blood vessels disappear also.

Telangiectasia of rosacea lends itself admirably to galvanic destruction with the fine needle. The high frequency current also is available for this condition.

Depending on their size and location, one treats warts by extirpation with a sharp curet, using local ethyl chloride anesthesia or high frequency, monopolar current, with procaine anesthesia. Since the histologic pathology of the verruca vulgaris discloses it to be more than an excresence above the level of the skin, for in truth the wart is an overgrowth of epithelium in the pegs, one must reach to the corium to eradicate a wart. Verrucae under the nails are difficult to remove satisfactorily. Over articulations, as of the fingers, verrucae give some trouble, also. One should not promise to give complete relief in one sitting with large warts, as a second or even third treatment is desirable to indicate the required depth for the electric modality employed. With the curet, of course, only one operation is required; but the patient must have surgical after-care, because the corium is exposed.

Milium is the name for the tiny, white, cystic appearing excrescences on the face, especially under the eyes. These are considered blemishes by some women, and they are removed by puncturing and pressing out the enclosed material. Or one may give very slight sparking with the high frequency current.

Molluscum contagiosum may be curetted away, or the growth may be hindered by puncture. The high frequency current is ideal for this type of benign tumefaction, even if the lesions are on or near the eyelids or genitals, the common locations.

Comedones not associated with acne vulgaris may be expressed with a comedone remover, under proper precautions. Acne comedones require this physical expression above all other forms of therapy.

Cutaneous horns in the older persons are removed, under local anesthesia, with the surgical polarity of high current electricity. If any suspicion of malignancy is given by the clinical appearance of the base of the horn, wide excision should be practiced, and radium should be applied to the surface.

Scars and hypertrophic scars may be made less unsightly by electrolysis, galvanism being used, or by monopolar high frequency currents. Keloids are perhaps best treated by radium; less successfully, by roentgen ray. Surgery is, of course, contraindicated, as the resultant scar will become even more keloidal than the one so removed.

Neurofibromas and fibromas associated with other skin diseases may be removed with the high frequency current.

Xanthoma of the eyelids may be removed by the galvanic current through needles or by superficial monopolar high frequency currents. They are reported as being amenable to phototherapy.

It seems impossible to give explicit directions as to the use of the modalities. Each manufacturer makes a machine that operates on different currents, such as alternating and direct, with a converter necessary for the latter. The spark gap is an important structure that has not been standardized. The mode of regulation is different for every machine made, and indeed for each of the models of the same machine. For high frequency, either monopolar or bipolar, one may practice first on butcher's meat, or on a piece of dry laundry soap, and, finally, one may make tests for accuracy on the patient and the modality used with gratifying results.

The easy accessibility of the skin has offered an opportunity for quacks and quackery. Persons who would not attempt therapeutic measures for similar pathologic entities within the cavities of the body have no hesitancy when the condition is on the skin. Great and even small cities are flooded with so-called beauty specialists who have no scientific training. Education of the people who form the clients of these so-called beauty specialists must be undertaken, as is so admirably done by *Hygeia*. In the meantime, legitimate physicians should be prepared to undertake some tiring and boring work in cosmetic dermatology.

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INTESTINAL INTOLERANCE FOR CARBOHYDRATE

ASSOCIATED WITH OVERGROWTH OF THE GAS BACILLUS (BACILLUS WELCHII) *

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There is a group of persons, usually, but by no means always, adults of middle age, which presents a clinical picture that is rather vague, and somewhat obscure, of long duration, and of which the significance is often overlooked, or at least not apprehended.

The syndrome is quantitative rather than qualitative; that is, there are no clearly defined, outstanding symptoms. The onset is insidious and gradual, although the patient, usually a woman, may associate its beginning with some unusual dietary event, as a party, or indulgence above the ordinary in unusual foods. This event, however, should it occur, usually marks a culmination rather than a commencement.

The several typical symptoms, which, let it be emphasized again, are quantitative rather than qualitative, are: (1) constipation; (2) fatigue, which is manifested by a marked disproportion between the mental desire for accomplishment and the physical inability of realization; (3) meteorism; (4) precordial or hypochondrial pain, often elicited only on deep pressure; (5) hypotension; (6) intolerance for certain kinds of foods: this is often overlooked by many patients and realized by others only when careful questioning reveals to them its import; and, finally, undue activity of the "gas bacillus" or, less commonly, of starch fermenting members of the mucosus group of bacteria in the intestinal tract. There may be diminution of gastric acidity in some cases, but by no means a majority.

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Many of these patients, more commonly those having precordial tenderness, awaken between 1 and 3 o'clock in the morning with what has aptly been called a "gnawing" sensation, or even pain. This seems to be associated with an accumulation of gas, either in the cecum or in the region of the sigmoid. Those whose hearty meal is in the middle of the day may have a corresponding advance in this gas symptom.

Patients presenting this syndrome exhibit no demonstrable evidence of organic disease, nor does organic or mental disease seem to develop from these symptoms, even though they persist for several years.

The more common diseases with which this syndrome is confused are: neurosis, especially in women; gastric or duodenal ulcer; gallbladder disease; carcinoma in the sigmoid; mucous colitis, and Herter's[1] "saccharobutyric putrefaction." The diagnosis of neurosis, which is not infrequently made on the absence of definite evidence of constitutional disease combined with the complaint of the patient that physical endurance is below par, is particularly displeasing to those women who are intelligent, alert, and anxious to do far beyond their physical ability. Nor is this diagnosis ordinarily justifiable. A diagnosis of mucous colitis is ordinarily ruled out on the absence of exaggerated nervous phenomena and also the absence of paroxysmal secretion of very tenacious mucus. Herter's saccharobutyric putrefaction, "a form of intestinal derangement characterized by a chronic putrefactive process having its seat mainly in the large intestine and lower ileum, and due to the action of very large numbers of strictly anaerobic butyric acid producing bacteria capable of multiplying by means of spore formation,"[2] is more nearly in accord with the facts than any other. It differs, so far as his description indicates, in that putrefactive, rather than fermentative, processes are prominent, and also that diarrhea rather than constipation is a rather common event. It seems not unlikely that Herter's conception of the gas bacillus as a putrefactive organism may have misled him in the interpretation of his syndrome. The gas bacillus is one of the few bacteria that are nearly devoid of proteolytic, or putrefactive, powers. This fact was established, however, long after Herter's fine work on saccharobutyric putrefaction was published, and it seems both logical and appropriate to leave the question of identity between the saccharobutyric syndrome and the one under discussion in abeyance for the present.

The etiology of the intestinal intolerance for carbohydrate is not wholly clear, although in a series of seventy-five cases studied between 1910 and 1925 the gas bacillus or, in a few instances, members of the *Mucosus capsulatus* group of bacteria (starch fermenting types) were obtained in unusual numbers from the intestinal tracts of nearly all. Also, and this seems to be important, it is probable that these organisms, particularly the gas bacillus, are extended upward in the intestinal tract to areas quite beyond their normal habitat. Convincing proof of this is lacking, however. None of the seventy-five cases have come to necropsy, as far as is known. All have shown improvement on a prescribed diet, and most have been lost track of.

It may be stated that the unusual development of gas bacilli or, less commonly, the *Mucosus capsulatus* group, in the intestinal tracts of these patients is not necessarily the underlying cause of the syndrome, although, as will be explained later, the overgrowth of these organisms is nearly, or quite, coextensive with the probable underlying causes. Also, and this is important, dietary measures that restrain the activity of these microbes are of conspicuous therapeutic value.

Quite early in the study of this group of cases, it was surmised that those conditions which permit of an overgrowth of gas bacilli in the intestinal tracts of persons presenting this carbohydrate intolerance would also obtain in the alimentary canals of diabetic patients. Accordingly, a study of the intestinal contents of fifty patients with diabetes was made, the same technic being used. These observations revealed the fact that gas bacilli or, less frequently, members of the *Mucosus capsulatus* group of bacilli were unusually abundant in a large majority of cases. Nor should the observations of Herter,[3] Simonds[4] and, more recently, Moench, Kahn and Torrey,[5] who found gas bacilli unusually numerous in the feces of many, if not indeed of most, patients with pernicious anemia be overlooked. Furthermore, these organisms, especially the gas bacillus, occur as a presumptive cocausative factor in certain sporadic and milk-borne diarrheas, some of which are very severe. Finally, a proportion of patients with secondary anemia are also infested with unusual numbers of gas bacilli in the intestinal tract.

The question very naturally presents itself, Is the gas bacillus the causative factor in these several unlike syndromes? It must be conceded that none of these ailments are contagious; no danger attends those who are in intimate contact with a diabetic patient or a person with pernicious anemia. Nor does available evidence provide any instance of one disease arising from the other, possibly, however, because of their comparative rarity. Finally, gas bacilli are so commonly found in at least modest numbers in the human feces that the organisms may be regarded as normal intestinal parasites, usually acclimatized in the lower intestinal tract.

Whatever the etiologic relationship may be, it is very probable that the unusual luxuriance of growth of gas bacilli in the alimentary canal is due to an alteration of the intestinal environment of such a nature as to permit the organisms to attack carbohydrate unrestrainedly. Furthermore, an important factor, if indeed not a major factor, is the reduction in activity or in numbers, or both, of the normal intestinal lactic acid organisms. In the absence of the lactic acid restraint, the gas bacilli may extend their range of activity very considerably. Much more information is needed, however, before the full result of such an extension of activity can be evaluated.

Returning to the intestinal intolerance for carbohydrate: Whatever the etiology may prove to be, a dietary treatment is available that has been found quite satisfactory, and productive of amelioration of the symptoms. This treatment is based on the fact that the gas bacillus grows rapidly in the absence of intestinal lactic acid organisms of normal activity, and produces considerable amounts of butyric acid, much gas, and some soluble poison. Therefore, to control the gas bacillus, a decided restriction of carbohydrate, some increase in protein, and the administration of well soured milk is to be insisted on. Soured milk should be given between meals, up to 1½ quarts daily, at appropriate intervals, between 7 a. m. and 10 p. m. preferably. Young children, who sometimes have a similar syndrome in somewhat modified form, naturally take less soured milk. Particular attention must be paid to coffee and tea and preserved fruits. Patients frequently fail to realize that the sugar added to coffee and tea and that in preserved fruits is a rich source of carbohydrate for the gas bacillus.

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[1] Herter: Bacterial Infections of the Digestive Tract, 1907, p. 291.

[2] Herter, C. A.: The Influence of Food and of Epithelial Atrophy on the Manifestations of Saccharobutyric Intestinal Putrefaction, J. A. M. A. **49**: 1965 (Dec. 14), 2077 (Dec. 21) 1907.

[3] Herter, C. A.: J. Biol. Chem. **2**: 64, 1906-1907.

[4] Simonds: Monograph V, Rockefeller Institute, 1915, p. 73.

[5] Moench, L. M.; Kahn, M. C., and Torrey, J. C.: J. Infect. Dis. **37**: 161 (Aug.) 1925.

On such a regimen, enriched cautiously with well toasted bread, grapefruit and gradually other carbohydrate-containing food, in accordance with idiosyncrasies, as intestinal carbohydrate tolerance increases, the patient should make a rather slow, but definite, improvement. Usually the constipation is relieved and the meteorism diminishes. Not infrequently at this state, with the full soured milk regimen, the patient complains of "sour stomach," very often early in the morning. This is to be treated symptomatically, and soured milk forced until the patient is definitely on the road to recovery. This may take some time in exceptional cases.

Thus, one patient, G. M. K., who has been under close observation for sixteen years, and who had a most obstinate case to induce improvement in, required more than two months of this very restricted diet before betterment was apparent. After six months, however, she could commit one dietary indiscretion a week—as a portion of ice cream—without distress. After two years, at least two dietary indiscretions of similar character could be indulged in with impunity. It was noticed that these dietary indiscretions were rather less tolerated about the menstrual period, a peculiarity noticed in other severe cases in women. This is not construed as a phenomenon associated with an internal secretion.

Some persons are experimentalists: they become skeptical about the entire program and try the obvious expedient of indulging rather freely in sweets. Usually, the microbic response is evident within eight hours as acute distress, meteorism and general discomfort. This means that the organisms are not yet restricted to their normal habitat. The patient usually goes back to buttermilk and the low carbohydrate diet with fortitude, and even resignation. Experiments of this sort are really worth while if the patient appraises them correctly.

With recovery, there is an unusual craving for sweets. This is to be met so far as the patient's condition warrants. It will soon be discovered that the kind and amount of carbohydrate that can be tolerated without discomfort is idiosyncratic. Relapses are not infrequent, and recovery is usually rather slow, but definite. The patient may test the completeness of recovery by indulgence in sweets. In the event of a relapse, no great harm is done, and the treatment may be resumed with confidence that it will gradually restrict the intolerance for carbohydrate.

SUMMARY

The syndrome here described is one rather commonly encountered among persons of middle age. There is no outstanding qualitative symptom. The patients are, as Robert Koch once said in another connection, "enjoying a state of rude health," neither conspicuously ill, nor fully well.

The etiology, which seems to be associated with intestinal intolerance for carbohydrates (especially the small intestine), is not at all clear. Gas bacilli, less commonly members of the mucosus group of bacilli of the starch fermenting type, are found in unusual numbers in a great majority of cases. It is not predicated, however, that these organisms are necessarily the primary incitants of the disorder. The hypothesis is advanced, and there seems to be some basis in fact, that one important factor in the overgrowth and probable upward extension of the gas bacillus is a decrease in the number of normal lactic acid bacteria in the small intestine. Adding preformed lactic acid to the intestinal contents by frequent administration of well soured milk tends to correct this deficit.

Whatever the cause may finally prove to be, a regimen containing low carbohydrate, considerable protein and some fats, together with liberal and frequent administration of well soured milk, has proved to be of very definite—almost specific—value in reestablishing normal intestinal conditions.

ELUSIVE ULCER OF THE BLADDER

A FURTHER REPORT BASED ON FORTY-FOUR CASES *

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A great difference of opinion regarding the treatment of elusive ulcer of the bladder still seems to obtain among urologists. The treatment originally recommended by Hunner was a very wide resection of the ulcer-bearing area; but because of the unsatisfactory results, despite its radical nature, fulguration was advocated by various authors. The good qualities of fulguration were soon recognized and the open operation was generally abandoned. After having had a few failures, I gave up the open operation in favor of fulguration.

Hunner has practically discontinued operation on his patients, and directs his attention to the removal of distant foci of infection and the local use of silver nitrate. When these fail, he resorts to the open operation. Others use no form of local treatment at all.

Furniss[1] recently stated that he obtains the best results in those cases in which he fulgurates through the open bladder.

Because of these various opinions regarding the treatment of this condition, it occurred to me that a review of the cases that have been under my observation would not be without interest, especially a comparison of the end-results of those treated by the wide resection and by fulguration.

In all, I have had forty-four cases. For the purpose of checking the end-results, the patients were seen personally; but when they lived out of town, personal contact was of course lacking and reliance had to be placed on answers to letters and a questionnaire.

ETIOLOGY

As regards the etiology of elusive ulcer, nothing definite is known. Hunner believes that distant foci of infection are the most important factors. I have always taken cognizance of his statement and have paid particular attention to the presence or absence of distant foci in examining patients. When they were found, they were cleared up as part of the treatment, as far as this was possible.

A review of these cases showed: chronic infection in the tonsils in 12 cases; abscessed teeth, 8; chronic max-

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*Read at the Annual Meeting of the Western Surgical Association, Wichita, Kan., Dec. 18, 1925.

[1] Furniss: Personal communication to the author.

illary sinusitis, 2; chronic cholecystitis, 1; chronic otitis media, 1; atrophic rhinitis, 1, and leukorrhea, 1.

In nine cases, tonsillectomy had been performed before the patients came under observation.

In view of the fact that infection of the teeth and of the tonsils is very common and that elusive ulcer is, after all, relatively uncommon, the assumption that they stand in relationship of cause and effect will need more positive proof than we have at the present time.

INCIDENCE IN REGARD TO SEX AND MARRIAGE

It is generally agreed, in consonance with the clinical impressions, that this disease occurs more often in females than in males. This view coincides with my experience. In this series of forty-four cases, forty occurred in females, whereas only four occurred in males. Hunt called attention to the fact of this preponderance of females over males and stated that distant foci of infection were as common in one sex as in the other; hence the inference should be that they play little or no part at all in the causation of the disease.

As far as can be determined, the marital status is a negligible factor. Of the forty women, thirty-one were married. Of the thirty-one married women, twenty had been pregnant one or more times, and in two cases the history was not stated.

AGE

Elusive ulcer of the bladder is essentially a disease of adult life, as was indicated in our series, the largest number of cases occurring in the third, fourth and fifth decades equally. The youngest patient was 20 years of age and the oldest, 75. Five cases occurred between the ages of 20 and 29; twelve, between 30 and 39; eleven, between 40 and 49; ten, between 50 and 59; five, between 60 and 69; one, between 70 and 75.

CLINICAL COURSE

One of the most striking clinical facts is that elusive ulcer of the bladder is essentially a chronic disease. Perhaps the history of the long duration of the symptoms as elicited from the patients is due to the fact that only recently has this condition been recognized, and that we are on the lookout for its presence. And, no doubt, as our attention is focused more and more on its possible occurrence in all cases, the disease will be recognized at a much earlier date and hence be given the benefit of early treatment.

The longest duration of symptoms in this series was twenty years or more, and the shortest, eleven months. Between these two the following durations of symptoms were noted: eleven months, 1 case; one year, 6; one and one-half years, 2; two years, 7; three years, 4; three and one-half years, 1; four years, 2; five years, 1; six years, 3; seven years, 2; eight years, 4; nine years, 1; ten years, 1; eleven years, 1; thirteen years, 1; seventeen years, 1; twenty years, 1; years, many, 1, and not stated, 3.

PREVIOUS OPERATIONS

A rather striking phenomenon is the fact that many of these patients have had one or more operations for the relief of their urinary symptoms and that the operations have failed to give them the desired relief. This has become such an old story that whenever a woman presents herself with a history of bladder distress and a clear urine, and who has had one or more surgical or gynecologic operations for bladde[illegible] out relief, one instinctively makes a [illegible] of "elusive ulcer." As a matter of fact, this is a good clinical rule to follow, since this symptom complex, while by no means pathognomonic, prevents one, every now and then, from overlooking a case.

SYMPTOMS

Frequency of urination was present in every instance in our series. The periods between micturition varied somewhat in each individual case and varied in each patient at different times. Thus, many of the women volunteered the information that the frequency of urination was always worse during or just before the period of menstruation.

Associated with frequency of urination there is a certain amount of pain. Pain of varying degree was present in every case. In eight cases pain was in abeyance or absent at the time the patients came under observation, although they had had pain previously.

In practically all our cases, the pain was described as being located in the bladder. Several patients stated that the pain was localized in the neck of the bladder, and in other instances pain was referred to the urethra. Pain was present as follows: in bladder, 19 cases; in neck of bladder, 3; soreness in bladder region, 3; pain in kidney, 3; perineum, 1; urethra, 2; vagina, 1; hip, 2; suprapubic region, 2; penis, 1; labia, 1; legs, 1; abdomen, 1, and pelvis, 1.

Burning on urination was the next symptom most frequently mentioned, being present in twenty-two cases.

Other symptoms that were present were: frequency of urination, 44 cases; pain on urination, 36; pain, 41; burning on urination, 22; urgency of urination, 14; hematuria, 13; loss of weight, 11; nervousness, 11; backache, 9; difficulty in urinating, 6; chills, 5; cloudy urine, 4; tenesmus, 3; fever, 4; retention of urine, 2; nausea and vomiting, 2; incontinence, 1, and scanty urine, 1.

All patients were subjected to roentgen-ray examination for stone. In two cases the presence of stone was demonstrated; in one case a single stone in the ureter, and in another multiple stones in one kidney were found.

A positive Wassermann reaction was lacking in all the cases.

Great care must be exercised in the differential diagnosis lest this condition be confused with tuberculosis. In one case I failed to make a differential diagnosis and operated on a patient with a tuberculosis of the bladder. The patient had a very long convalescence.

URINALYSES

As a general rule, the urine was clear and sparkling, a fact to which Hunner called attention in his several publications on this subject. Careful and repeated examinations of the urine, however, showed the presence of leukocytes in varying amounts, as well as red blood cells. The latter, however, were not always constant, but repeated and careful study of the sediment showed, at one time or another, the presence of red cells in a large number of instances. Leukocytes were found in all cases, and in twenty-four cases red blood cells were reported as being present at one time or another.

Cultures of the bladder urine were made in thirty-six cases. Of these, positive cultures were obtained in seventeen cases. The cultures were sterile in nineteen cases; *B. coli* was found in nine cases and staphylococcus in eight.

In seventeen cases the right ureter was catheterized; cultures of the urine were sterile in fourteen cases; *B. coli* was found in two, and staphylococcus in one. The left ureter was catheterized in sixteen cases; cultures of the urine were sterile in thirteen cases; staphylococcus was found in two and diphtheroids in one.

TREATMENT

As previously stated in this paper, there still seems to be a great difference of opinion regarding the best form of treatment for this condition. In order to determine just what the results had been this review of forty-four cases was undertaken, and to analyze the results of treatment instituted, the cases, for the purposes of discussion, may be divided into three groups.

In group 1 are cases in which the diagnosis was made but in which no treatment was instituted. In this group were nine cases. The reasons for failure to institute treatment are irrelevant; but, in view of the fact that no treatment whatever was instituted, they automatically drop out of the discussion.

Group 2 consists of cases treated by open operation; that is, wide resection of the ulcer-bearing area. Eleven cases belong to this group. By the term "cured" is meant the result achieved in those cases in which treatment was by open operation, and in which the patient was completely relieved of all urinary distress, chiefly pain in the bladder, and painful and frequent urination. Six patients were completely relieved by surgery and, as far as we have been able to determine, are still free from symptoms. Four of the eleven patients presented themselves subsequently to being operated on or answered a personal communication, in which they stated that they were again suffering from urinary distress similar in character to that for which they had been operated on. One patient has been classified as being improved, for the reason that she suffers only slight urinary distress at times, but does not consider herself absolutely well. She stated in her letter that she felt well enough not to care to have cystoscopy done and the condition of her bladder verified or determined. One of the patients treated surgically and cured by open operation had been treated by fulguration for a long period without relief. Another patient in whom a recurrence was credited to the operation was ultimately cured by fulguration. In a previous report the percentage of cures was given as 75 and the recurrences as 25. As time went on and the cases were kept under observation subsequent to the publication of the report,[2] the percentage of cures has become smaller. The percentage of cures in this group was 50, the recurrences, 40, and the improvements, 10.

Group 3 embraces twenty-four patients who were treated only by fulguration through the cystoscope. Of these, six are cured in the sense that they are free from all types of urinary distress. Sixteen patients were improved, the improvement in the largest number of instances being so great that the patients feel perfectly satisfied with their results and do not wish, nor can they see the need for, further observation or treatment. Some of these patients, however, are skating on rather thin ice. So long as they follow the even tenor of their lives they may be considered well; but the intervention of an acute cold or the grip or a gastro-intestinal upset may result in an immediate recurrence of some of the symptoms. One patient is under treatment and one has been lost sight of, so that data regarding the result in these cases are not available.

CONCLUSION

At first sight it would appear that fulguration should be the treatment of choice because the percentage of improvements in our series was decidedly large. On the other hand, when it is remembered that some of these patients have an aggravation of their symptoms consequent on such slight provocation as an intercurrent infection or fatigue, it would appear that the ultimate results, as regards cure, are not very gratifying.

ADJUNCTS TO TREATMENT

In several instances patients improved by means of local treatment other than fulguration. In several instances the use of silver nitrate instillations into the bladder gave a good deal of relief, but in no instance was a patient cured.

122 South Michigan Avenue.

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[2] Kretschmer, H L: Elusive Ulcer of the Bladder: A Further Report, Surg., Gynec. & Obst. 35: 759 765 (Dec) 1922.

ELECTRODIAGNOSIS AND ELECTROTHERAPY IN PARALYSIS FOLLOWING POLIOMYELITIS *

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It is generally agreed among observers of the epidemics of infantile paralysis in the last decade that the proper care of the weakened or paralyzed muscles is of the greatest importance in determining the final degree of function obtainable. Lovett[1] stated that "the greater majority of muscles are weakened rather than paralyzed, and precise, effective and intelligent treatment enlarges greatly the field of possible complete recovery."

My object in this paper is to report the methods of muscle testing and treatment by electricity as employed during the last four years in the department of physical therapy of the Reconstruction Hospital of New York. It has been our experience that the rational and systematic application of electrical stimulation in connection with the accepted orthopedic and general systematic measures will assist greatly in achieving acceptable results in cases even of long standing. In the cases under our observation, the earliest was of six months' and the oldest of eighteen years' standing; the total number of cases observed was forty-two.

After a thorough examination by the clinical staff, patients are referred to the department of physical therapy for the purpose of (1) testing all affected muscles by electricity and putting down in definite figures the extent to which they are affected; (2) making a prognosis of the improvement to be expected, and (3) instituting appropriate treatment in conjunction with the indicated orthopedic measures.

ELECTRODIAGNOSIS

The basis of our diagnostic and prognostic procedure is the comparison of the response of normal and degenerated muscles to electrical stimulation, long known as the "reaction of degeneration," but considerably modified in view of modern research, as described by Adrian[2] and others. Normal muscle with intact nerve supply will respond with a contraction to a weak current lasting 1/1000 second or less. Muscle degenerated after being separated from its trophic center, by injury or lesion of the nerve or of the trophic center itself, will require currents lasting from 1/100 to 1/10 second. In the ordinary testing outfit, the faradic coil furnishes a current flowing intermittently for about 1/1000 second duration. A normal muscle will remain, therefore, in continuous contraction (tetanus) while the faradic current flows, as the stimuli follow in such rapid sequence that there is no relaxation possible in between them. If, when a large (indifferent), well moistened electrode, about 3 by 5 inches, is applied over the spinal origin of the field of testing, and a small (active) electrode, about ¾ inch in diameter, is applied over the "motor point" of a muscle that is warmed previously and relaxed, and the two are connected to a faradic coil, a tetanic contraction results at the flow of the current, we know that the muscle has not degenerated, although there may be a degree of weakness or lack of promptness in the response. Total lack of response to faradic stimulation in infantile paralysis indicates that the muscle has degenerated on account of the impairment of its trophic center in the spinal cord.

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* Read before the Midwinter Session of the American Electrotherapeutic Association, at the New York Academy of Medicine, Jan 7, 1926

[1] Lovett, R W.: The Treatment of Infantile Paralysis, Philadelphia, P. Blakiston's Son & Co, 1917, pp 25, 73 76

[2] Adrian, E. D: Physiological Basis of Electrical Tests in Peripheral Nerve Injuries, Arch. Radiol & Electrol 21: 379 (May) 1917.

A degenerated muscle, clinically in the state of flaccid paralysis, as long as there is enough contractile substance left in it, will respond to electrical stimuli of long duration, as furnished by the make and break of the direct (galvanic) current. The resulting contraction is, however, sluggish and weak, in contrast to the brisk contraction of a normal muscle under the same stimulus. The technic of this testing is as follows: The indifferent electrode is applied to the spinal origin of the field of testing—the lumbar region, for instance, in the case of the lower extremities—and connected to the positive pole (anode) of the apparatus, while the active electrode provided with a make and break key is connected to the negative pole (cathode). In all our diagnostic and therapeutic work with galvanism, we always employ the cathode as the active electrode. Modern investigators [3] agree that the time-honored and confusing formula of polar inversion is no longer considered essential, and that an electrical stimulus is at the "make" effective only at the cathode.

The simple galvanic and faradic test as described, if properly charted, furnishes us with a picture of the gross anatomic condition of the weak or paralyzed muscles. We are safe in stating that all muscles showing response to faradism, no matter how weak, are normal or can be made so. Such muscles, as a rule, show voluntary power. Paralyzed muscles responding only to interrupted galvanism may or may not regain normal function, depending on the severity of the lesion and the results of treatment. This simply qualitative method furnishes us, however, with no means of putting down our findings in definite figures that might serve for the purpose of future comparison and allow us to make a more definite prognosis.

The condenser method of testing, which we have used extensively, enables us to overcome this difficulty. Its detailed technic and rationale have been described in a previous paper [4] and by Hirsh.[5] I will state here only that its principle is to apply electrical stimuli of equal strength but of varying duration for the measure of the degree of excitability of the individual muscles, and for the charting of progress in their response. It is less painful than the ordinary faradic and galvanic test, and we find little difficulty in applying it to children 2 or 3 years of age. Response to the condenser method of testing is measured in microfarads, an arbitrary measure of capacity. We found that, in muscles with reactions of normal type, condenser capacities of from 0.01 to 0.08 are required. Such muscles as a rule respond to faradism. Partly degenerated muscles require from 0.09 to 0.90 microfarad and fully degenerated ones 1 or more microfarads.

In quite a number of cases no response can be elicited, even by the highest values of the condenser set, but a contraction can still be accomplished by strong interrupted galvanism, on account of its longer flow and greater volume. We have provided, therefore, an extra column on our testing charts to register this response. In case of very weak muscles in which the testing current "spreads" to the strong antagonists, we apply the galvanic and condenser test by the "bipolar" method. This is carried out by placing two active electrodes of equal size directly over the muscle. The concentration of current thus obtained often elicits a response when the normal monopolar method fails.

PROGNOSIS

On the basis of our electrical testing as described, we can make a prognosis as follows: Muscles responding to faradism or up to 0.09 microfarad of the condenser set will recover voluntary power within a short period; muscles with a response under 0.90 on the condenser set will usually recover under appropriate electrical stimulation and adequate orthopedic support; those with a condenser response of more than 1 microfarad, or with response to strong interrupted galvanism, will require a long course of careful treatment, but will still present a possibility for recovery. Muscles in which on repeated testing there is a total lack of response to any electrical stimulus might show a return of some electrical response, but we very seldom see the return of voluntary power to such muscles. In repeating the muscle tests, according to the severity of the lesion, every four to six weeks, we are able to better our prognosis when marked improvement has been shown from appropriate treatment.

RATIONALE OF ELECTRICAL TREATMENT

The reason that we find, in a number of orthopedic writings, an indifferent if not decidedly antagonistic attitude to electrical treatment in cases of infantile paralysis is twofold: 1. The writers have never received any instruction in the physiologic basis and the proper methods of electrotherapy, this subject having been totally neglected in the medical curriculum. 2. Whatever experience they may have had of its use is derived from "treatments badly directed, badly applied by unqualified persons, from treatments of insufficient intensity and duration, and applied with defective instruments." [6]

Lovett [1] says: "The well being and efficacy of a muscle is largely dependent on the performance by it of a certain number of active contractions. When a muscle is inactive for any length of time, it atrophies. It is an accepted physiological principle that the exercise of the normal functions of a muscle is the best means of increasing its size and strength. The same rule applies to the partially paralyzed muscle." Tilney[7] says: "Muscle prevented from performing its natural function of contraction tends to revert to noncontractile connective tissue type. It remains for us to supply the deficient function of contraction by whatever means we possess. Electricity is one of these means."

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[3] Cumberbatch, E. P.: Essentials of Medical Electricity, ed. 5, St. Louis, C. V. Mosby Company, 1924, pp. 180-189; Turrell, W. J.: The Principles of Electrotherapy and Their Practical Application, London, Henry Frowde and Hodder & Stoughton, 1922, pp. 127, 170-175.

[4] Kovacs, Richard: Electrodiagnosis of Peripheral Nerve Lesions and Infantile Paralysis, Am. J. Electroth. & Radiol. **42**, no. 2, November, 1924.

[5] Hirsh, A. B.: Some Recent Changes in Muscle and Nerve Testing, Am. J. Electroth. & Radiol. **38**: 61 (Feb.) 1920.

[6] Bergonié, Jean: Les progrès du traitment électrique de la paralysie infantile, Arch. d'electricité méd., Feb. 10, 1912.

Massage and muscle training are the two universally recommended means of restoring muscles affected by infantile paralysis. Do they preserve the function of contraction? Of massage, Lovett says: "It can only be expected of proper massage that it will improve locally muscular tone and nutrition and antagonize muscular atrophy and nothing more. It will not restore muscular power." Stookey[8] says: "Modern experimental evidence proves that massage is only of slight benefit in preventing atrophy of paralyzed muscles." In paralysis, according to Mennell[9] only the slightest form of massage is indicated because, owing to the atrophy of the paralyzed muscle, pressure may be transmitted to the blood vessels, causing paralytic dilatation; thus, heavy massage will defeat the end sought. In our own cases of paralysis, we use massage only as an adjunct for the further improvement of local circulation; very light massage for from five to ten minutes at a time to one extremity is all that is indicated.

Active exercise as accomplished by muscle training is undoubtedly the most natural form of reeducation of weak muscles. Its disadvantage is, first, that only older children can be trained. Lovett recommends their beginning at the age of 3, and Ogilvy[10] at 6. Tilney[7] says: "Muscle reeducation to be most efficient requires an elaborate system of accessories and a well trained staff of instructors. With one conspicuous exception, no such efficiency has yet been attained." If the muscles are without any power, the passive performance of the motion, as recommended, is undoubtedly inferior to active contraction by electricity. Muscle training can and should be applied systematically alongside the electrical treatment, and the latter should be abandoned in its favor as soon as there is a return of active muscular power.

Electrical muscle stimulation, as seen, can cause movements similar to the normal ones even in degenerated muscles, and can thus preserve the functional properties of the muscle until the normal nerve impulse returns to carry on the work. Muscle training undoubtedly helps to lead the impulses of the brain around the destroyed centers by new paths to the muscle. Souttar and Twining[11] say: "Were we limited to one method of treatment and had nothing but the muscle to consider, we should ourselves prefer electrical stimulation to all other methods." If the muscle is not fully paralyzed, but is only weak, the causing of contractions not only prevents the atrophy of the paralyzed muscle bundles, but also exercises and strengthens the nonparalyzed part and thus enables it to do compensating work.

Treatment by electricity should not interfere with indicated orthopedic measures, either operative or supportive, but rather should serve as an adjunct, as in our own work.

TECHNIC OF ELECTRICAL TREATMENT

Radiant light reflected from a carbon filament lamp should be used as an introductory treatment for at least fifteen minutes in all cases to promote local nutrition and to improve skin conductivity and muscular response by its warming and relaxing action. In some cases diathermy may be indicated along the length of the extremity so as to warm the deeper parts.

Preceding and during electrical treatment, the extremity should be placed so that the paralyzed muscles are not stretched by their powerful antagonists; if necessary, even a splint has to be used.

For electrical stimulation on the basis of our preliminary muscle testing, we select the electrical current that will evoke response in the gentlest way. We are well aware of the danger of overtiring a muscle, and therefore we never use more current strength than one that will produce just a flicker in the tendon.

Faradism.—If the muscle is only weak, the faradic current will be used, as it imparts impulses that are the nearest to the impulse of normal nerve stimulation. Experiments of Debadet have proved that rhythmically varied faradic currents caused more than twice the growth in muscles induced by galvanism. In applying faradism, we use either the Bristow coil or a high tension faradic coil, with an arrangement whereby the current can be made surging. The Bristow coil furnishes a low voltage, relatively painless current, the strength of which can be varied comfortably by sliding a soft iron core in and out of the primary coil. In the high tension faradic coil, the tension of the current will determine its penetrating or stimulating quality; by selecting different wire lengths of the secondary spiral, we can regulate the tension; at the same time the current can be made surging and thus much more pleasant and effective. The straight faradic current causes tetanic muscle contraction and should never be used for treatment. The technic in each case is to apply an indifferent electrode over the spine and a small active electrode, from 1 to 1½ inches in diameter, over the individual muscles, causing from six to ten contractions of each at the start, increasing the number of contractions gradually until a maximum of two or three minutes' treatment to an individual muscle or fifteen minutes to an entire extremity is reached. Treatment is usually given first daily and then three times a week.

Sinusoidal Current.—In muscles lacking faradic response, the slow (galvanic) sinusoidal is the current of choice. It produces a stimulus of long duration and slowing surging quality to which the paralyzed muscles respond very gently and painlessly. We are always using the method of monopolar muscular stimulation; i. e., a large indifferent electrode over the cervical or lumbar spine or at any place proximal to the paralyzed part, and a small active electrode over the individual muscles. In all these cases the normal motor point is displaced distally (toward the tendon) and to save time in subsequent treatments it is advisable to mark with an indelible pencil the most effective point of stimulation for each muscle. According to the response, each muscle is made to contract from half a dozen to a dozen times, the number of contractions being increased until from thirty to forty a minute is reached and a maximum treatment of from two to three minutes to an individual muscle or fifteen minutes to an entire extremity is given.

The use of the interrupted galvanic current for the eliciting of contractions gave rise to considerable controversy in the past. As long as we believe that it is beneficial to cause contractions in degenerated muscles, interrupted galvanism will supply a need in cases that do not respond to the sinusoidal current. The difference of action is based on the physics of the two currents and the stage of degeneration of the muscles. To obtain a muscular contraction (based at the "make" of the current on the stimulus exerted by the sudden concentration of hydrogen ions under the cathode), the current must have (1) a certain minimal strength and (2) a certain minimal duration. The gradually increasing stimulus of the slow sinusoidal current is often not sufficient in advanced degeneration of muscles to cause contraction; it does not last long enough at a certain voltage. Hand interruption prolongs the duration of current flow, and at the same time the current strength can be easily increased to the limit necessary. This explains why interrupted galvanism with its longer flow and higher voltage causes response in cases in which the sinusoidal current does not. We use interrupted galvanism with the same technic as the sinusoidal current, the active electrode being attached to the negative pole of the apparatus.

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[7] Tilney, Frederick: The Present Management of the Poliomyelitis Epidemic in New York City, New York M. J. **104**: 1221 (Dec. 23) 1916.

[8] Stookey, B. P.: Surgical and Mechanical Treatment of Peripheral Nerves, Philadelphia, W. B. Saunders Company, 1922, p. 191.

[9] Mennell, J. B.: Massage, Its Principles and Practice, London, J. H. A. Churchill, 1920, p. 324.

[10] Ogilvy, Charles: Poliomyelitis: New Developments in the After-Care and Treatment, J. A. M. A. **71**: 1730 (Nov. 23) 1918.

[11] Souttar and Twining: Injuries of the Peripheral Nerves, New York, William Wood & Co., 1922, pp. 25-29.

TABLE 1.—*Muscle and Nerve Test in Case 1*

		Aug. 29, 1922			March 3, 1923			Nov. 27, 1923		
		Faradic	Condenser Microfarad	Galvanic	Faradic	Condenser Microfarad	Galvanic	Faradic	Condenser Microfarad	Galvanic
N. femoralis										
Sartorius	Right	Good	0.05	....	Normal	0.02	....	Normal	0.02	....
	Left	No	0.09	....	Good	0.03	....	Normal	0.03	....
Rectus femoris	Right	Good	0.06	....	Good	0.04	....	Normal	0.03	....
	Left	No	0.08	....	Good	0.05	....	Good	0.04	....
Vastus internus	Right	Normal	0.02	....	Normal	0.03	....	Normal	0.02	....
	Left	Good	0.05	....	Good	0.05	....	Good	0.04	....
Vastus externus	Right	Normal	0.02	....	Normal	0.02	....	Normal	0.02	....
	Left	No	No	Poor	Poor	0.06	....	Good	0.05	....
Pectineus	Right	Good	0.05	....	Good	0.04	....	Normal	0.03	....
	Left	Weak	0.09	....	Weak	0 07	....	Normal	0.03	....
Adductor longus	Right	Normal	0.03	....	Normal	0 03	....	Normal	0.02	....
	Left	Weak	0.08	....	Good	0.03	....	Good	0.05	....
N. sciaticus										
Gluteus maximus	Right	Good	0.05	....	Normal	0.04	....	Normal	0.03	....
	Left	No	0.25	....	No	No	Poor	No	No	?
Gluteus medius	Right	Good	0.05	....	Good	0.04	....	Normal	0.03	....
	Left	No	0.25	....	No	No	?	No	No	....
Biceps femoris	Right	Good	0.05	....	Good	0.05	....	Good	0.05	....
	Left	No	0.15	....	Weak	0.12	....	Weak	0.08	....
Semitendinosus	Right	Good	0.06	....	Good	0.05	....	Good	0.05	....
	Left	No	0.15	....	Weak	0.14	....	Good	0.05	....
Semimembranosus	Right	Good	0.06	....	Good	0.05	....	Good	0.05	....
	Left	No	0.20	....	Weak	0.12	....	Good	0.05	....
N. peroneus (external popliteal)										
N. peroneus profundus										
Tibialis anterior	Right	Good	0.04	....	No	?	....	No	No	No
	Left	Normal	0.03	....	Normal	0.03	....	Good	0.05	....
Extensor longus digitorum	Right	Good	0.04	....	Normal	0.02	....	Normal	0.02	....
	Left	Normal	0.03	....	Normal	0.04	....	Normal	0.03	....
Extensor longus hallucis	Right	Good	0.04	....	Normal	0.02	....	Normal	0.02	....
	Left	Normal	0.02	....	Normal	0.02	....	Normal	0.02	....
Extensor brevis digitorum	Right	....	....	....	....	....	....	Normal	0.02	....
	Left	....	....	....	....	....	....	Normal	0.03	....
N. peroneus superficialis										
Peroneus longus	Right	Good	0.06	....	Good	0.06	....	Normal	0.04	....
	Left	Good	0.04	....	Good	0.04	....	Normal	0.03	....
Peroneus brevis	Right	Good	0.06	....	Good	0.05	....	Normal	0.04	....
	Left	Good	0.05	....	Good	0.04	....	Normal	0.04	....
N. tibialis (internal popliteal)										
Gastrocnemius	Right	Good	0.04	....	Normal	0.03	....	Normal	0.02	....
	Left	Good	0.05	....	Good	0.05	....	Normal	0.04	....
Soleus	Right	Good	0.04	....	Good	0.04	....	Normal	0.02	....
	Left	Good	0.05	....	Good	0.04	....	Good	0.04	....
Flexor longus digitorum	Right	No	?	Poor	Normal	0.03	....	Normal	0.03	....
	Left	Good	0.05	....	Normal	0.03	....	Normal	0.03	....
Flexor hallucis longus	Right	Good	0.06	....	Normal	0.03	....	Normal	0.03	....
	Left	Good	0.06	....	Normal	0.03	....	Normal	0.03	....
Tibialis posterior	Right	....	....	....	Normal	0.03	....	....	....	....

It is interesting to note in many cases that at first it is necessary to use a larger amount of current to cause contractions, and after the first one or two contractions we can elicit response with markedly less current. One can aptly express it by stating that the muscle needs "waking up" at first, and then responds more briskly. We will also find in a number of cases that, after a few treatments with interrupted galvanism, response can be elicited by the slow sinusoidal galvanic current. In such cases, naturally, the modality of the treatment is changed to sinusoidal. In most types of modern apparatus the sinusoidal wave can be interrupted mechanically, thus furnishing an extra stimulus on the crest of the sinusoidal wave, a very advantageous combination when the muscles are still very weak.

The extensive use of sinusoidal currents in the war and during the reconstruction period has resulted in a number of machines producing two main variations of currents: (1) a true sinusoidal derived from a galvanic (constant or direct current) and (2) a so-called sinusoidal derived from the alternating current (rapid alternating waves). There is a widely open field for the study of the best method of muscle stimulation based on the physiologic contraction times of muscles, but as a general rule it can be stated that an electrical current used for producing muscular contractions should be applied in rhythmic surges, in unison with the physiologic cycles of muscle movements. The rate of contraction of the muscles of arms and legs is about thirty to forty a minute.

As systematic electrical stimulation is continued, we find that the atrophy gradually disappears and the muscle response improves. It is an interesting experience to note the sudden improvement in some of the old cases of infantile paralysis soon after proper treatment has been instituted. "It is almost as though there were some latent recovery lurking in the muscle, needing only the electrical stimulus to reveal its presence." [12]

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[12] Turrell (footnote 3, second reference).

I wish to emphasize the following important points in giving electrical stimulation in cases of infantile paralysis:

1. I do not believe that treatment *en masse,* i. e., by applying one electrode up near the spine, the other on the sole of the foot, and thus putting the same amount of current through all muscles, whether paralyzed or not, is as beneficial as the method of individual muscle stimulation over each motor point as described. I feel that too much strengthening of the healthy antagonists and too little strengthening of the muscles needing individual attention is thus accomplished. In cases, however, in which a whole extremity is nearly evenly affected, such a procedure might be advisable. Binding an electrode over a motor point and having the current run through for varying lengths of time is bad practice.

TABLE 2.—*Muscle and Nerve Test in Case 2*

		Aug. 30, 1923			Feb. 7, 1924			Nov. 17, 1925		
		Faradic	Condenser Microfarad	Galvanic	Faradic	Condenser Microfarad	Galvanic	Faradic	Condenser Microfarad	Galvanic
N. femoralis										
Sartorius	Right	No	No	Poor	No	No	Poor	?	1.00	....
	Left	No	No	Poor	No	No	Poor	No	No	Poor
Rectus femoris	Right	No	No	Poor	No	No	Poor	?	0.40	....
	Left	No	No	Poor	No	No	Poor	Weak	0.20	....
Vastus internus	Right	No	No	Poor	No	No	Poor	No	0.40	....
	Left	No	No	Poor	No	No	Poor	Weak	0.15	....
Vastus externus	Right	No	No	Poor	No	No	Poor	No	0.40	....
	Left	No	No	Poor	No	No	Poor	Weak	0.20	....
Pectineus	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	No	No	Poor	No	No	Poor	No	No	Poor
Adductor longus	Right	No	No	No	No	No	?	No	No	Poor
	Left	No	No	No	No	No	?	No	No	Poor
N. sciaticus										
Gluteus maximus	Right	No	No	Poor	No	0.80	....	Poor	0.70	....
	Left	No	No	Poor	Weak	0.30	....	Weak	0.20	....
Gluteus medius	Right	No	No	?	No	?	Poor	Poor	0.50	....
	Left	No	No	Poor	Weak	?	....	Weak	0.30	....
Biceps femoris	Right	No	No	Poor	No	No	Poor	Poor	1.30	....
	Left	No	No	Poor	No	No	Poor	Weak	0.60	....
Semitendinosus	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	No	No	Poor	No	No	Poor	Poor	? No	Poor
Semimembranosus	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	No	No	Poor	No	No	Poor	Poor	?	Poor
N. peroneus (external popliteal)										
N. peroneus profundus										
Tibialis anterior	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	Normal	0.02	....	Normal	0.03	....	Normal	0.02	....
Extensor longus digitorum	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	Normal	0.02	....	Normal	0.03	....	Normal	0.02	....
Extensor longus hallucis	Right	No	No	Poor	No	No	Poor	No	1.50	....
	Left	Normal	0.02	....	Normal	0.04	....	Normal	0.02	....
Extensor brevis digitorum	Right	No	No	Poor	No	No	Poor	No	1.50	....
	Left	Normal	0.02	....	Normal	0.03	....	Normal	0.02	....
N. peroneus superficialis										
Peroneus longus	Right	No	No	Poor	No	No	Poor	No	No	....
	Left	No	No	Poor	Weak	0.08	....	Good	0.08	....
Peroneus brevis	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	No	No	Poor	Weak	0.07	....	Weak	0.07	....
N. tibialis (internal popliteal)										
Gastrocnemius	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	No	No	Poor	No	No	Poor	Good	0.05	....
Soleus	Right	No	No	Poor	No	No	Poor	No	No	Poor
	Left	No	No	Poor	No	No	Poor	Good	0.01	....
Flexor longus digitorum	Right	No	No	Poor	No	No	Poor	No	No	....
	Left	No	No	Poor	Good	0.04	Poor	Good	0.03	....
Flexor hallucis longus	Right	No	No	Poor	No	No	Poor	No	No	....
	Left	No	No	Poor	Good	0.04	Poor	Good	0.03	....
Tibialis posterior	Right	No	No	Poor	No	....	Poor	....	....	....
	Left	No	No	Poor	No	....	Poor	....	....	....

2. I am well aware of the danger of overexercising a muscle by electricity. I do not believe that more than a flicker of the tendon is necessary to prove a successful contraction in a paralyzed muscle. This flicker may not even be visible; it is enough when it is palpable to the trained finger at the insertion of the tendon. From three to ten contractions of each muscle are ample at the start and the increase to the maximum number is effected gradually. A careful operator will very quickly notice that a larger amount of current is needed in case of a muscle that has been overtired previously, provided all other conditions are equal.

3. To give electrical muscle stimulation efficiently, it is therefore necessary to emphasize intelligent personnel, trained not only in the application of electricity but also in anatomy and the mechanical problems of the skeletal muscles. In order to chart progress, a condenser set test is advisable every four to six weeks.

4. Muscle training—the reeducation of normal muscular function—should go on simultaneously with electrical stimulation. When there is an indication of the return of voluntary motion in one or more of the paralyzed muscles, which usually precedes the return of the faradic response, one has to be very careful not to replace the gentle action of the sinusoidal current too quickly by the faradic current. A muscle just recovering is very sensitive toward any more exhaustive exercise with faradism, and it can be easily tired out so that it will take several days to elicit faradic response again.

I am well aware that the average limit of spontaneous maximum recovery in infantile paralysis is six months; but improvements may occur even after two or three years. I realize also that the number of cases observed (forty-two) is comparatively small alongside the large series presented by orthopedic observers. I trust, however, that the simple and rational diagnostic and therapeutic methods presented will encourage their employment by competent workers in other institutions.

CASE 1.—*Paralysis of left lower extremity after poliomyelitis (five years' standing).* L. N., a boy, aged 6 years, admitted, Jan. 6, 1922, had had poliomyelitis at the age of 10 months. He had had two transplanting operations (peroneal brevis into tibialis anticus) at the age of 3½, followed for one year by massage. On admittance, the child wore braces on both legs and possessed marked muscular atrophy of the left leg. Electrical testing showed no faradic, weak condenser response of the quadriceps, glutei, biceps, hamstrings and flexor longus digitorum. Clinically, there was no extension in the knee, and there was a lack of power in the calf muscles. The patient received radiant light, very gentle massage and the sinusoidal current. By Nov. 27, 1923, the quadriceps, sartorius, adductor longus, semitendinosus and semimembranosus and flexor longus digitorum showed normal electrical and clinical response. The calf and peroneal muscles had recovered from weak normal to fully normal response. On the other hand, the peroneus brevis tendon, which had been transplanted into the tibialis anticus, had lost all dorsal flexor action, compelling the child to continue wearing a brace on the leg.

Case 2.—*Paralysis of both lower extremities after poliomyelitis (one year's standing).* M. A., a girl, aged 3 years, had had poliomyelitis in 1922, at the age of 2. First examination, Aug. 30, 1923, one year after her original attack, showed almost total paralysis of both lower extremities; the tibialis anterior and the extensors of the left leg were the only muscles showing any active power. Electrically, there was normal response of these muscles and poor response to galvanism of all other muscles of both lower extremities, except the adductors on both sides, which showed no response at all, and the right gluteal muscles, in which there was only a doubtful response. Treatment was commenced two months later, and consisted of radiant light and heat, the slow (galvanic) sinusoidal current and very gentle massage. Graduated muscle exercises were begun as soon as the child was able to comprehend them and carry them out. Treatment was interrupted because of absence from the city for a few months in 1924, but otherwise it continued up to the present time. The last electrical muscle test, taken, Nov. 17, 1925, showed very considerable progress in both lower extremities. The left quadriceps muscle showed the return of faradic response and a weak normal response on the condenser set; there was also measurable response of the right quadriceps muscle. The gluteal muscles on the left showed weak normal response, while the right gluteals and hamstrings recovered faradic response. All muscles of the left leg showed practically normal response, and there was a return of measurable response in the right extensor hallucis longus and the extensor digitorum brevis. Clinically, there was active power in the left quadriceps as well as in all the muscles of the left leg, and a corresponding improvement in the bulk and tone of the muscles and the general strength of the patient.

Case 3.—*Paralysis of both lower extremities after poliomyelitis (eighteen years' standing).* S. O., a woman, aged 21, had her original attack eighteen years previously, at the age of 3. She had received electrical treatment, consisting of violet rays (monopolar high frequency current from the Oudin terminal) for seven years by the late Dr. Abraham Jacobi, and orthopedic institutional care ever since. On admission, July 17, 1925, she showed normal development of the muscles above the knees, except the hamstring muscles, and a total atrophy of all structures below the knee except the left calf muscles, which showed some weak development. Electrically, there was the normal type of response of most muscles on the anterior surface of the thighs and of the glutei, with pronounced weakness on the left side; there was only doubtful response of the right adductor longus and no response at all of the left pectineus and adductor and of the hamstrings on both sides. There was a total lack of any response of the muscles of both legs, with the exception of the right peroneals, which showed a very weak response to strong interrupted galvanism, and of the right calf muscles and the dorsal flexors, which showed a weak normal type of response, as well as the right plantar flexors. Treatment, consisting of radiant light and heat, sinusoidal current and muscle training, was commenced, November 10, and was given three times a week. At the

Table 3.—*Muscle and Nerve Test in Case 3*

		July 17, 1925			Nov. 10, 1925			Dec. 30, 1925		
		Faradic	Condenser Microfarad	Galvanic	Faradic	Condenser Microfarad	Galvanic	Faradic	Condenser Microfarad	Galvanic
N. femoralis										
Sartorius	Right	Good	0.05	....	Good	0.03	....	Good	0.05	....
	Left	Weak	?	Poor	?	0.50	....	Weak	0.30	....
Rectus femoris	Right	Good	0.04	....	Good	0.05	....	Good	0.05	....
	Left	Weak	0.09	....	Weak	0.09	....	Good	0.06	....
Vastus internus	Right	Good	0.04	....	Good	0.09	....	Good	0.04	....
	Left	Weak	0.09	....	Weak	0.11	....	Weak	0.10	....
Vastus externus	Right	Good	0.07	....	Good	0.07	....	Good	0.07	....
	Left	Weak	0.09	....	Weak	0.12	....	Good	0.07	....
Pectineus	Right	Weak	0.12	....	Weak	0.13	....	Weak	0.13	....
	Left	No	No	No	No	No	No	No	No	Poor
Adductor longus	Right	?	No	?	Weak	0.12	....	Weak	0.13	....
	Left	No	No	No	No	No	No	No	No	No
N. sciaticus										
Gluteus maximus	Right	Good	0.06	....	Good	0.06	....	Normal	0.02	....
	Left	Weak	0.12	....	Weak	0.15	....	Good	0.08	....
Gluteus medius	Right	Good	0.06	....	Good	0.06	....	Good	0.05	....
	Left	Weak	0.12	....	Weak	0.15	....	Weak	0.15	....
Biceps femoris	Right	No	No	No	No	0.50	....	No	?	Poor
	Left	No	No	No	No	No	No	No	No	No
Semitendinosus	Right	No	No	No	No	0.60	....	Weak	0.15	....
	Left	No	No	No	No	No	No	No	No	No
Semimembranosus	Right	No	No	No	No	0.60	....	Weak	0.20	....
	Left	No	No	No	No	No	No	No	No	No
N. peroneus (external popliteal)										
N. peroneus profundus										
Tibialis anterior	Right	No	No	No	No	No	No	No	No	No
	Left	No	No	No	No	No	No	No	No	No
Extensor longus digitorum	Right	No	No	No	No	No	No	No	No	No
	Left	No	No	No	No	No	No	No	No	No
Extensor longus hallucis	Right	No	No	No	No	No	No	No	No	No
	Left	No	No	No	No	No	No	No	No	No
Extensor brevis digitorum	Right	No	No	No	No	No	No	No	No	No
	Left	No	No	No	No	No	No	No	No	No
N. peroneus superficialis										
Peroneus longus	Right	No	No	Very weak	No	No	Poor	No	No	Poor
	Left	No	No	No	No	No	No	No	No	....
Peroneus brevis	Right	No	No	Very weak	No	No	Poor	No	No	Poor
	Left	No	No	No	No	No	No	No	No	....
N. tibialis (internal popliteal)										
Gastrocnemius	Right	No	No	No	No	No	No	Weak	0.20	....
	Left	Weak	0.07	....	Weak	0.13	....	Weak	0.25	....
Soleus	Right	No	No	No	No	No	No	No	0.23	Poor
	Left	Weak	0.10	....	Weak	0.13	....	Weak	0.30	....
Flexor longus digitorum	Right	Good	0.06	....	Good	0.06	....	Good	0.06	....
	Left	Good	0.06	....	Good	0.06	....	Good	0.06	....
Flexor hallucis longus	Right	Good	0.05	....	Good	0.05	....	Good	0.13	....
	Left	Good	0.06	....	Good	0.06	....	Good	0.14	....

first follow-up muscle test, December 30, four weeks after the beginning of treatment, the patient showed a return of active power in the right hamstrings and adductors and gastrocnemius. Electrical testing showed a weak faradic response of these muscles, as well as a measurable improvement of the response to the condenser set of these as well as of the left sartorius, proving that, by well directed electrical stimulation, latent power can be developed even as late as eighteen years.

For the charting of electrical muscle and nerve tests, we have worked out three standard charts: one for the lower extremity, one for all muscles about the shoulder and for the musculospiral distribution, and one for the ulnar and median distribution. The charting and treatment of paralysis following peripheral nerve lesions is done on the same basic principles.

CONCLUSIONS

1. Electrical currents, simulating the natural physiologic impulse, are most valuable in restoring the power of paralyzed muscles following poliomyelitis. Rhythmically varying currents of low tension are the most effective.
2. No electrical treatment should be instituted in any case without a preliminary accurate electrical muscle test.
3. No case is of too long standing for the institution of proper electrotherapy. The earlier it is begun after the acute stage, the more satisfactory will be the results. Definite technic and persistency are the keynote of success.

223 East Sixty-Eighth Street.

SKIN REACTIONS WITH FILTRATE OF KOCH STRAIN OF BACILLUS TUBERCULOSIS *

RUSSELL D. HERROLD, M.D.
AND
CLARENCE C. SAELHOF, M.D.
CHICAGO

The so-called Koch strain of the tubercle bacillus is an avirulent culture which gives a profuse growth overnight on the ordinary solid and fluid nutrient mediums. It was thought well to study whether the growth of the bacillus in broth might produce a substance that, injected intracutaneously, would give a skin reaction. The strain used was obtained from Dr. F. G. Novy in Ann Arbor, Mich., who brought it from Dr. Koch's laboratory in 1888. It was originally a virulent strain.

Transplants from solid medium were made into nutrient broth containing 0.1 per cent dextrose and 0.1 per cent dibasic sodium phosphate in place of the sodium chloride of the ordinary broth. A four day growth was passed through Berkefeld N filters, and the filtrate diluted with physiologic sodium chloride solution for skin tests. Skin reactions were obtained in normal adult persons in dilutions up to 1 : 50 injected intracutaneously in a quantity of 0.1 cc. Tuberculin syringes were used and a 27 gage needle. The injections were made in the forearm as a rule, but in persons with a thin skin the arm was satisfactory.

Within twenty-four hours the majority of apparently normal adult persons developed an area of redness at the site of injection, which varied from 1 to 3 cm. in diameter and reached its maximum in from twenty-four to forty-eight hours; after fading, there frequently is left a pigment spot which persists for several days and in some instances for several weeks. Such reactions are classified as positive.

A second type of reaction was smaller in size, from 5 to 10 mm. in diameter, and after forty-eight hours disappeared without leaving any pigmentation. This reaction is considered as doubtful.

The tests without reaction at the end of forty-eight hours are classed as negative. Controls of broth diluted with salt solution gave no reactions.

The results in various classes of patients are given in the table. The results in the patients with known active tuberculosis were uniformly negative. These patients included some with each of the usual sanatorium groups of advanced, moderately advanced and incipient forms of the disease. Positive reactions predominated in a series of men in a venereal clinic. Nine of fourteen children, from 2 to 10 years, convalescing from diphtheria, scarlet fever and whooping cough, gave negative reactions.

Intracutaneous Skin Reactions with the Filtrate of Koch Strain of Bacillus Tuberculosis

Type of Patient	Number of Patients	Number of Reactions		
		Positive	Doubtful	Negative
Advanced tuberculosis	35	0	0	35
Moderately advanced tuberculosis	31	0	0	31
Incipient tuberculosis	8	0	0	8
Apparently normal adults	61	47	8	6
Apparently normal children	14	2	3	9

The effect of mixing serum from a patient giving a negative reaction with an equal quantity of toxin was studied. The patient had a moderately advanced pulmonary tuberculosis; the skin reaction was negative even in the quantity of 4 skin units; an equal quantity of serum and filtrate in one-half the dilution for the usual skin test was incubated for one hour at 37 C.; this mixture was then injected into the skin of two apparently normal persons in the usual way and in both instances there were no reactions. The control tests with the same dilution of filtrate were positive. This patient had had several subcutaneous injections of the filtrate, and afterward several intracutaneous tests had been made and in each instance the result was negative. Thirteen parallel tests were made with old dilution in salt solution which had stood at room temperature for two weeks and with a fresh dilution. Eleven reactions were negative when the old dilution was used, and two patients gave a plus-minus reaction. The tests were repeated three days later on the same patients with a fresh dilution, and ten of the thirteen were positive.

Obviously, the interpretation of these results must be tentative, but the presence of a reaction in the majority of apparently normal adult persons seems to indicate that there is a substance produced by the growth of this strain of tubercle bacillus in broth which acts in a different way from tuberculin. Further tests on a large number of patients are indicated with filtrates from a variety of strains of tubercle bacilli. As the children tested were convalescing from various contagious diseases, a series of normal children should be examined to determine whether they react in a similar way. The reaction to the filtrate in normal adult persons and the absence of reaction in tuberculous patients and in many children may mean that, in the presence of an active tuberculous focus, there may be sufficient antisubstance produced to neutralize the toxic substance.

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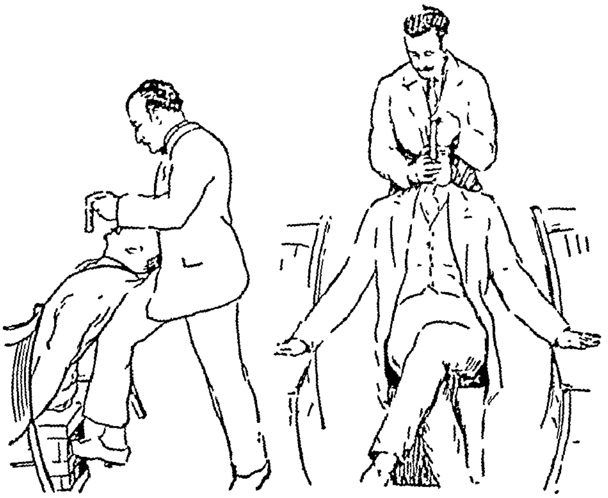
* From the John McCormick Institute for Infectious Diseases.

Clinical Notes, Suggestions and New Instruments

DORSAL SITTING POSITION FOR MAKING DIRECT LARYNGEAL AND UPPER ESOPHAGEAL EXAMINATIONS

J. Paul de River, M.D., San Francisco

In making a direct laryngeal or esophageal examination, it is essential that the patient be placed in such a position that the examiner may readily see the parts without undue strain on the patient or himself. In many instances in which it is necessary to make a hasty examination, assistants are not always available to hold the patient's head over the end of the table (Rose-Boyce). The position here described, which is applicable to home or office use, is easily performed without an assistant. It is extremely useful in making a quick examination of the larynx or upper portion of the esophagus, or when a large number of patients have to receive examinations and treatment, as in tuberculosis hospitals.



Essentials of dorsal sitting position.

The patient is seated on a low stool. On each side of him is placed a chair, on which he rests his arms for support. The chairs should be higher than the stool on which he is sitting. The examiner stands directly behind the patient with his left foot on the rung of the stool and his leg bent slightly at the knee to conform to the curvature of the patient's back. The patient is instructed to rest his head against the examiner's thigh while the examiner introduces the direct speculum with his left hand, leaving his right free for any necessary local applications. The curvature of the spine can be regulated by the examiner's left leg, bending as needed. It further acts as a support for the patient's head.

861 Sutter Street.

GONOCOCCAL PERITONITIS COMPLICATING GONORRHEAL VULVOVAGINITIS

Morris Gleich, M.D., New York

A girl, aged 4 years, awoke suddenly one evening complaining of severe abdominal pain. This pain, followed by vomiting and fever, continued all night. On examination next day the child was moribund. The abdomen was soft and relaxed. No tenderness was evident. The labia and introitus were red. There was no vaginal discharge. The rest of the examination was negative.

Twenty-four hours from the onset of symptoms, the child succumbed. Necropsy revealed an acute, diffuse, purulent peritonitis, with markedly inflamed tubes, ovaries and uterine endometrium. *About 4 ounces of yellowish-red, odorless, purulent fluid was obtained from the pelvis.* The liver and spleen were studded with necrotic foci. There was cerebral and pial edema. The appendix was normal. Histologic studies showed the typical acute, exudative, inflammatory reaction.

Smears from the pelvic pus and vaginal mucosa showed gram-negative intracellular diplococci and many pus cells.

COMMENT

Peritonitis following gonorrheal vulvovagino-endocervicitis is rare. When it occurs, it soon becomes chronic and is localized in the pelvis. This peritonitis, generalized and hyperacute, extended from the external genitalia. The fulminating character of the attack probably points to the adult type of gonococcus[1] as the offending organism, as the infantile type is usually associated with the "explosive"[2] yet chronic and localized form of peritonitis.[3]

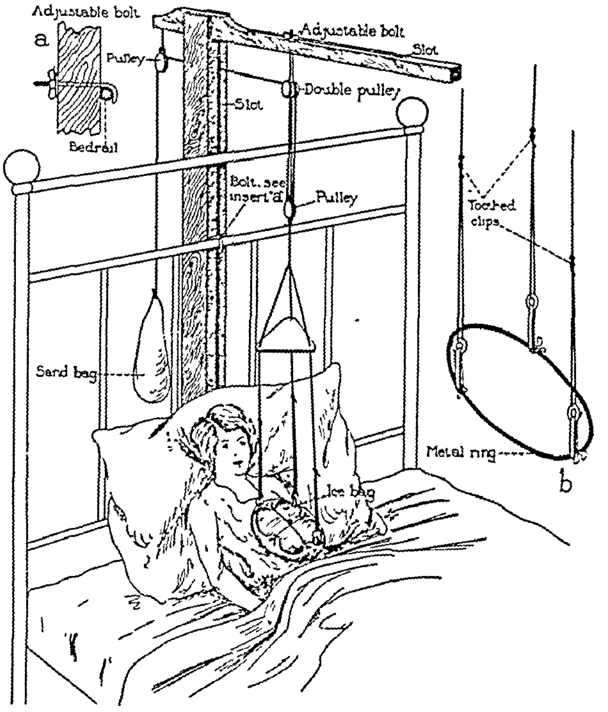
9 Post Avenue.

A DEVICE FOR SUSPENDING AN ICEBAG*

Maude L. Lindsey, M.D., Rochester, Minn.

In the treatment of heart disease of children, it may be difficult to keep an icebag in place. Its weight in such cases is also an objection. To avoid these difficulties, a device as shown in the illustration has been constructed.

The apparatus consists of two slotted wooden beams made stationary at right angles, and an adjustable block and tackle to which the icebag sling and a counterbalance are attached. The upright beam is fastened to the cross rods at the head of the bed by means of two adjustable hooked belts. The horizontal beam carries the adjustable block and tackle which is to be made stationary directly over the point of application of the icebag. The sling is composed of a strong wire ring suspended by means of three adjustable cords, which are held apart by means of a triangular wooden frame, through the corners of which the cords pass. The ring may be adjusted



Method of application of icebag.

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1. Pearce, Louise: J. Exper. Med. **21**: 289 (April) 1915.
2. Comby, quoted by Northrup, W. P.: Two cases of Gonococcal Peritonitis in Young Girls Under Puberty, One Simulating Appendicitis, Arch Pediat **20**: 910 (Dec.) 1903.
3. Stooss, M.: Diseases of the Peritoneum, in Pfaundler and Schlossmann: The Diseases of Children **3**: 256, 1908.

* From the Section on Pediatrics, Mayo Clinic.

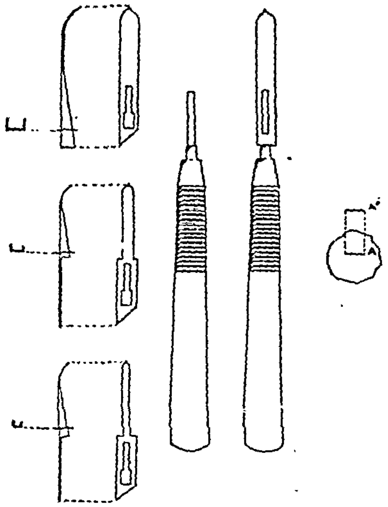
to any slant desired by means of toothed display hooks for changing the lengths of the suspension cords. The application of the icebag and of the counterbalance to the block and tackle is shown in detail.

The icebag may be put aside and readjusted easily and quickly.

A NEW BIOPSY KNIFE

EUGENE A. DUPIN, M.D., NEW YORK

In doing a biopsy of a new growth, it is our object to remove that portion of the growth in which the cells are young and actively proliferating. This area is at the periphery of the mass. We should accomplish our object with as little discomfort as possible to the patient. If we excise a wedge-shape portion of a growth by means of an ordinary scalpel it is necessary to make three or more separate incisions, and to use thumb forceps, etc. When the lesion is small I have found the use of the ordinary scalpel cumbersome. To obviate some of the difficulties of doing a simple biopsy and to accomplish our object more effectively, I would suggest the use of the knife here described.



Biopsy knife: It enters growth at *A* and emerges at *A.'*

This instrument is a scalpel with a blade curved on the flat and with a cutting edge on each side and at its tip. The proximal edge of the blade is bent at an angle of 90 degrees, as shown in the illustration. The blades are of assorted sizes and may be used in the regular Bard-Parker handle.

The use of the knife is illustrated in the diagram. The convex surface of the knife is placed parallel to the surface of the lesion. Into the growth at *A* the tip of the instrument is gently pushed in such a manner that it dips under the periphery of the new growth and emerges at *A'*. If the instrument is pushed farther, the intervening tissue is completely excised, the specimen remaining on the belly of the knife. With such a technic, our object is accomplished rapidly, effectively and with a minimum amount of discomfort to the patient.

At the Rothschild pavilion of the Radium Institute of Paris, which is one of the foremost cancer clinics of the world, and where many biopsies are done in the course of a day, I first saw Dr. Roux-Berger follow this technic, with an instrument which was quite similar.

The blades of this scalpel are to be manufactured by the Bard-Parker Company, and may then be procured from any local dealer in surgical instruments.

565 West One Hundred and Forty-Fourth Street.

Thrombocytopenic Purpura Hemorrhagica.—Acute thrombocytopenic purpura hemorrhagica can be distinguished from acute lymphoid leukemia and aplastic anemia by the blood count.—Sir Humphry Rolleston.

TWO CASES OF TULAREMIA

W. W. G. MACLACHLAN, M.D.; W. J. FETTER, M.D., AND
A. R. CRATTY, M.D., PITTSBURGH

These cases are, according to Dr. Francis of the United States Public Health Service, the first to be reported from Pennsylvania. It is interesting that both were recognized within a few days of each other.

CASE 1.—A man, aged 49, a butcher, admitted to the Mercy Hospital, Dec. 8, 1925, complained of fever, weakness and coughing. His illness began, November 24, two days before Thanksgiving. He had been preparing rabbits for the market and had cut his right index finger about two days before he began to feel ill. His finger became infected and was very sore, and remained so until shortly before admission to the hospital. Since the onset he had been feverish and had had many chills. He felt very weak and ached generally over the body. There was a good deal of coughing, but little sputum. He never had any bloody sputum. There were no gastro-intestinal symptoms except loss of appetite. There was no headache. He was ill fifteen days before entering the hospital.

The previous medical history was of no importance.

The man appeared to be quite ill. Movement in bed was somewhat painful. There was a small recent scar on the right index finger. A large lymph node about the size of a walnut was present in the right axilla. There were no other lymph nodes enlarged, and no sign of lymphangitis in the arm. A few fine râles were present over the lower lobes of the lungs. The heart was normal, and nothing abnormal was found in the abdomen. There was no conjunctivitis and the tongue was fairly clean. The blood pressure was: systolic, 88; diastolic, 54; pulse rate, 80; temperature, 102.2 F.; white cells, 8,600 and 10,800. The specific gravity of the urine was 1.023; it contained no albumin, no sugar and few white cells. The phenolsulphonphthalein test returned, 49 per cent. Nonprotein nitrogen was 36.1 mg. The Wassermann reaction, blood culture and agglutination test for typhoid and paratyphoid were negative.

Five days after admission, the patient's temperature fell to normal and remained there for the rest of his stay in the hospital. This was the nineteenth day of the disease. He was discharged on the twenty-fourth day, as we could not keep him in any longer, although at the time of his discharge he still had many râles in the chest but appeared to feel perfectly well and insisted on going home. The lymph node in the right axilla was about half the size that it had been on admission.

Blood was sent to Dr. Francis, who reported that it agglutinated *Bacterium tularense* in dilutions up to 1:640. The blood was taken on the twenty-fourth day of his disease, two days before the temperature had come to normal.

CASE 2.—A man, aged 35, a poultryman, became ill, November 26, Thanksgiving day, with general malaise, fever and aching back. December 1, he had a severe chill and was seen by his physician, who then considered the condition probably to be influenza. On this day his fever was 100.3, pulse, 92, and respirations normal. He had some râles in the right upper lobe. December 3, he had diffuse nosebleed; the temperature and pulse rate were normal. He got up and went out as he felt comparatively well, but on December 7 he had another chill with a rise in temperature. December 8, a small, ulcerated, reddish lesion at the base of the left little finger along the margin of the hand was noted. Two or three days after this he developed over both forearms pinhead pustules and some peculiar blotchy reddish spots, which later coalesced, on the backs of the hands. These gradually disappeared, but the hands still are a dull reddish and have shown considerable desquamation. The ulcer on the little finger healed, leaving a white scar surrounded by a reddish brown area. There were enlarged lymph glands in the left axilla; the left epitrochlear was much larger than normal. The posterior cervical glands also were enlarged. The enlarged glands in the axilla were noted shortly after the onset of the illness by the patient himself. About December 14 his eyes became sore and he developed a well marked conjunctivitis on both sides. He became extremely irritable and nervous and was difficult to manage. This condition remained until December 23. A few days prior to this time, tularemia was suspected. The patient recalled that he had prepared a number of rabbits for the market between October 30 and November 26. The rabbits came from Ohio. He does not remember ever cutting himself, although he often had scratches on his arms and hands.

December 23, there were a well marked conjunctivitis, some puffiness under the eyes, some râles in the left upper lobe of the lung, and a moderate enlargement of glands in the left axilla. The left epitrochlear was normal and the posterior cervicals were not remarkable. The man looked extremely ill and he was very irritable and nervous. There was no elevation of temperature, and the pulse rate was 90. The heart and abdomen were normal; the urine examination was negative. Since this time he has gradually improved and on examination, January 4, there was no evidence of any conjunctival involvement. We do not consider the conjunctivitis in this case, in view of the absence of preauricular lymph node involvement, as being due to tularemia.

Blood sent to Dr. Francis showed agglutination in 1:1,280 dilutions for *Bacterium tularense*.

During the course of the illness the patient lost 18 pounds (8 kg.) and is making a very slow convalescence, as he is now still very weak. In this case we cannot locate accurately the time of inoculation of the disease.

200 South Craig Street.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 689)

OTHER MEANS OF LESSENING TASTE

When it is impossible to make a medicine tasteless, attempts should be made to minimize its taste. Among drugs of identical action, the one whose taste or odor is least offensive should be chosen. Potassium citrate is preferable to potassium acetate, creosote carbonate to creosote, betanapthol to naphthalene.

Solutions of colloidal substances, such as mucilage, starch paste, and milk, are capable of markedly diminishing the taste of all, but most especially of sour, saline and acrid substances. Milk forms a most useful vehicle for the administration of such medicaments as iodides, bromides and chloral hydrate. It is instructive in this connection to compare the taste of a 1 per cent solution of sodium iodide in water and in milk, or of a 1 per cent solution of citric acid in water and in starch water.

The policy of administering medicaments in food is one that deserves serious consideration. It would certainly be a mistake to spoil a patient's appetite for and enjoyment of an important food for the sake of giving medicine. Milk, not being an important food for the adult, may be used freely as a vehicle not only for its disguising value but also because it lessens gastric irritation. The food value of milk must not be lost sight of. Thus, to give a lean neurasthenic patient bromide in a glassful of milk after meals and at bedtime not only helps in the administration of the bromide but also in the cure of the neurasthenia by improving the patient's weight. For an obese patient, on the other hand, administration of milk in this manner should, of course, be tabu. Substances of purely saline taste can be successfully given in soup, by using the medicament instead of cooking salt for the seasoning of the soup. In this manner, a course of bromide may be given to an epileptic patient even without his knowledge. Sodium phosphate is also well disguised by soup; but to administer castor oil in soup may render soup nauseating to the victim for a long time to come. The old and well tried method of stewing with prunes senna leaves tied up in a gauze bag, whereby the dish acquires decided laxative properties without any noticeable change in taste, also deserves to be mentioned in this connection.

COMBINING OF TASTES

Decided tastes, when mixed, tend to obscure one another. Sweetening is by far the most popular method of overcoming disagreeable tastes. It renders alkaline, sour or salty tastes more acceptable, especially for women and children; but it does not improve the bitter or the "astringent" taste. As a rule, children should have sweet medicines prescribed for them; it is well to sweeten even tasteless things for them. The physician who prescribes medicines for children in "candy form," whenever possible, will earn the love of his little patients and the gratitude of their mothers. There is no reason why calomel, and many other rather tasteless agents might not be administered in the form of sweet, aromatic, attractively colored tablets.

For sweetening, sugar, saccharin or glycyrrhiza may be used. The latter has the disguising value of colloid in addition to its sweetness. Syrups should generally be diluted before administration, as their thickness renders them rather disagreeable to take. Adults who dislike syrups often find aromatic elixir very acceptable. To small children, on the other hand, elixir should not be prescribed (excepting the aqueous elixirs of the National Formulary) as the ordinary elixirs contain 25 per cent of alcohol, as much as the strongest kind of wine.

The value of gluside (saccharin), 0.5:1,000, in the sweetening of medicines is not sufficiently appreciated. By means of it, powders are sweetened without increasing their bulk. As gluside is soluble in alcohol (3 per cent), ether, and to a slight extent in oils, those liquids can be sweetened which cannot be sweetened by sugar. Attention should especially be called to its value for sweetening oils. This is made use of in the preparation of Aromatic Castor Oil (N. F.), which is almost as sweet as honey and readily taken by children, though, unfortunately, the acrid after-taste of castor oil still remains. This is minimal with some extra fine brands of castor oil, as Kellogg's so-called Tasteless Castor Oil.[30]

The following is a prescription for Aromatic Cod Liver Oil recommended by Snow and Fantus:[31]

		Gm. or Cc.
℞	*Gluside*	0.1
	Compound spirit of orange	5.0
	Cod liver oil	to make 250.0

The gluside is dissolved in the compound spirit of orange, and mixed with the cod liver oil. The mixture is chilled in the icebox and filtered through paper, the first portions of the filtrate being returned until it runs through clear. Only a high grade of oil obtained in original completely filled containers is of sufficiently mild flavor to make disguising of the odor possible. After its preparation, this product should be preserved in completely filled, well stoppered bottles in the icebox. The lip of the bottle should be wiped clean each time a dose is poured out; otherwise rancidity at the mouth of the bottle might be sufficient to disgust the patient.

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* This is the eleventh of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

[30] Specifying a certain commercial brand in prescriptions should be avoided, unless the success of the remedy largely depends on the use of the quality inherent in this special product. While one must be very careful not to permit specious claims of manufacturers to influence one unduly in this direction, never to specify may mean sacrificing to an abstract principle the patient's interest and the prospects of ultimately securing general improvement of a product.

[31] Snow and Fantus: J. Am. Pharm. A. **14**:884 (Oct.) 1925.

Before attempting to disguise medicaments by the introduction of marked tastes or odors, we must bear in mind the prevalence of gustatory idiosyncrasies. While sweet tastes are pleasant to children and to most women, they may be decidedly objectionable to some men, especially to those who smoke and use liquor. Bitter, while generally relished by such men, is so abhorred by children that one should beware of giving them bitter medicines.

The sour taste is sometimes useful for disguising especially salty, bitter or insipid tastes. Either citric acid in the proportion of 0.5 per cent or the syrup of citric acid may be used. Magnesium sulphate is disguised probably as much as is possible to do by giving it in an ice cold effervescing lemonade.

The bitter and the "astringent" taste are most improved by aromatics and by alcohol. The comparative pleasantness of compound tincture of gentian, or of compound tincture of gambir, may be noted.

In the flavoring of medicines, let it be remembered that powerful odors are generally less pleasant than more delicate ones. Flavoring should be employed as delicately as the refined woman uses perfume: so that one just notices the odor at the first moment but loses cognizance of it afterward. To have an odor so strong that it continually obtrudes itself on our consciousness is to make obnoxious what should be pleasant. For this reason, flavoring principles should be added in small quantities only, 2:1,000 of a volatile oil or 2 per cent of flavoring spirit or tincture.

Another principle of perfumery that is not sufficiently appreciated in the flavoring of medicines is the development of a "bouquet." None of the successful perfumes are simple. They are all complex blends of a considerable, often large, number of odorous bodies—some, such as musk, unpleasant by themselves—probably chiefly because one can use such mixtures for a longer period without getting to dislike them than one could with a simple odor. The same fact accounts for the complexity of the flavoring—the aim at the production of "bouquets"—in beverages and in cookery.

To add a pleasant flavor to not disagreeably tasting or smelling medicine, the milder odors are to be preferred: lemon, orange peel, orange flowers, anise, fennel, tolu.

More potent, especially for disguising somewhat unpleasant tastes and odors, are pungent substances, such as peppermint, gaultheria, cinnamon, cloves, cardamom, ginger and sassafras.

For disguising really disagreeable odors, the most potent flavoring agents may have to be resorted to, among which may be mentioned rose, bergamot, bitter almond, lavender, balsam of Peru, vanillin and coumarin.

ELEGANT APPEARANCE

Like food, medicine should not only taste well but also look well. A mixture that looks like mud or like ink, even though its taste is pleasant, may by the very repulsiveness of its appearance be repulsive to the patient. Clear solutions rather than mixtures should be prescribed, not only because they look better but also because the dose of shake mixtures is much less uniform than that of solutions.

It is sometimes of advantage to impart to medicines an attractive color. Coloring may be useful not only by improving the appearance of the medicine but also sometimes by hiding the nature of the medicine from the patient or by acting through suggestion. Obviously, agents used for this purpose must be harmless.

For red coloring, one may use carmine for powder, and solution of carmine (N. F.) for neutral or alkaline aqueous or alcoholic liquids. As carmine is precipitated by acids, tincture of cudbear (N. F.), 0.5:100, is used for acid liquids; for oily liquids, alkanet. For yellow coloring, tincture of saffron for watery or alcoholic liquids may be used; for oily liquids, ointment or plasters, annotto. For brown coloring, compound tincture of cudbear (N. F.), 0.5:100, is available. For blue coloring, one may use methylene blue, an aniline dye. Most other aniline colors should be avoided, since they are frequently more or less poisonous. For powders, ultramarine or indigo may be used; for black, lampblack.

EXTRA-ORAL ADMINISTRATION

Finally, if it is impossible to make the medicine palatable, we may resort, most especially for children, to rectal administration by prescribing the medicament in the form of suppositories, or as a solution to be added to starch water and injected into the rectum as a retention enema.

SUMMARY OF PLEASANT MEDICATION

The principles of pleasant medication may be thus summarized: Medicines should be made tasteless, if possible, without interfering with their activity, or the taste lessened as much as possible; then, should it be desirable, they may be sweetened or flavored, always with due regard to elegance of appearance.

(To be continued)

Diagnosis of Cancer of Stomach.—Four years of work with a diagnostic team have dispelled a good deal of my former pessimism with regard to the possibility of diagnosing cancer of the stomach at a stage in which radical treatment is still possible. We must depend, in the first instance, on the recognition by the general public that instead of treating themselves with "patent medicines" they should at once seek medical advice for digestive symptoms of a kind they have not previously experienced. Secondly, the general practitioner must recognize that if such symptoms are not the result of some obvious cause and do not rapidly respond to simple treatment, the patient should undergo a complete investigation with the object of settling the diagnosis. I believe that it is possible in a very large majority of cases to decide definitely within ten days of taking a patient into a hospital or clinic whether the likelihood of cancer of the stomach is sufficiently great to warrant operation. The diagnosis can often be established with certainty; in the remaining cases it can be made with so great a measure of probability that an exploratory operation becomes the only justifiable treatment, even if the symptoms are of short duration or slight in degree. If the patient consults his doctor at the right time, and his doctor appreciates the value of a complete investigation in suspicious cases, a diagnostic team should be able to obtain sufficient evidence to decide whether an operation is indicated or not within a month of the onset of symptoms.—Hurst, A. F.: *Guy's Hosp. Rep.* **75**:395 (Oct.) 1925.

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SATURDAY, MARCH 13, 1926

CHLORIDE IN DIABETIC ACIDOSIS

The conception of acidosis in the living organism has undergone many changes since that term was introduced into the literature of chemical pathology. One of the earlier observations that helped to formulate a new idea of the body's response to unusual increments of acid was that of ammonia production serving to neutralize acidity. This biochemical mechanism is a highly interesting one; but investigation has shown that it is only one, and by no means the only device that the organism brings into play in its effort to prevent abnormal acidity from developing when there is an undue preponderance of acid production. The kidneys function in no small measure to bring about a compensatory elimination of acid; and the tissues may furnish bases other than ammonia that also prevent acid accumulation. Consequently, a recent writer[1] has described acidosis as a condition in which the essential feature is not an actual acidity of the blood, but an impoverishment of the body in available bases, whereby there results a decreased capacity of the tissues to get rid of carbon dioxide and other acids formed in their metabolism. Practically, we are further told, such acidosis results either from defective oxidation of organic acids formed in metabolism or from defective elimination of mineral acids (acid phosphate) because of impaired renal function. The chief example of the former is the acidosis of diabetes, of the latter the acidosis of nephritis; and mixed forms may occur.

The problem is more complex, however, than even this generalization suggests. Peters[2] and his collaborators at Yale University have demonstrated that the acid-base equilibrium may involve profound "shifts" in the electrolytes of the plasma. The most important point established by the studies is the fact that the organism responds to the production of abnormal amounts of acids of various kinds or the reduction of plasma bicarbonate by a transfer of water, chloride or base from the tissues to the blood, or vice versa. Reduction of the plasma chloride by this means liberates base associated with it, for combination with other acids, and therefore tends to reduce acidosis, while an increase of chloride has the opposite effect. In other words, a transfer of chloride in one direction is equivalent to a movement of base in the opposite direction. Peters further points out that the whole mechanism just described confers on the blood a greater ability to resist the disturbing effects of conditions that alter electrolyte equilibrium by rendering the acid and base stores of the tissues available where and when they are most needed. From the standpoint of other functions, it should be noted that these electrolyte changes may occur with such rapidity as to produce recognizable differences in the composition of arterial and venous blood and consequently their ability to absorb, transport and dissociate carbon dioxide and oxygen. The respiratory functions thus become involved.

In the examination of these considerations with reference to the actualities of the diabetic patient, it has been found[2] that ketosis of considerable severity may actually develop, as measured by the accumulation of organic acids in the serum, without appreciably affecting the bicarbonate of the plasma. In these cases the chloride content is usually found lowered in the plasma, and the base required for the neutralization of the ketone acids is evidently derived from chloride. In severe diabetic acidosis, base for the neutralization of the acids may be supplied by both bicarbonate and chloride. The decrease in chloride "liberated" from its base may occur with extreme rapidity and without any appreciable augmentation of chloride excretion, thus indicating that the chloride ion is merely transferred to the tissues.

The evident involvement of the chlorides in the readjustments due to diabetic acidosis presents considerations that may have a profound bearing on therapy. It is scarcely likely that, in the mobilization of base to meet the emergency of acidosis, the released chloride is permanently retained in the tissues to which it has penetrated. Such tissue retention is presumably temporary, elimination in one way or another presently taking place to avert undue accumulation. Accordingly, not only is base likely to be lost to the body in the successful excretion of the organic acids, but the chloride store also may become depleted. Peters ventures the suggestion that if chloride can aid in the maintenance of the blood reaction by yielding base for the neutralization of the ketone acids in severe diabetes, and can by this means spare bicarbonate and relieve the respiratory mechanism, the administration of sodium chloride in conditions of acidosis would seem to be a rational procedure. It remains to be seen whether this inference will be supported by clinical experience.

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[1] Wells, H. G.: Chemical Pathology, Philadelphia, W. B. Saunders Company, 1925.

[2] Peters, J. P.; Bulger, H. A.; Eisenman, A. J., and Lee, C.: Total Acid-Base Equilibrium of Plasma in Health and Disease, VI, Studies of Diabetes, J. Clin. Investigation 2: 167 (Dec.) 1925.

FATIGUE AND DISEASE

Disease has been defined as a change produced in living things in consequence of which they are no longer in harmony with their environment. With this definition we may couple Herbert Spencer's dictum that life is the continuous adjustment of internal relations to external conditions. Accordingly, there is no sharp distinction separating health in general from disease. The latter may be due quite as readily to the breakdown of bodily defenses against ever present dangers as to the inroads of unexpected or unconquerable invaders. Perhaps that is what Sir James Paget had in mind when he ventured the statement that fatigue has a larger share in the promotion or transmission of disease than any other single causal condition that can be named.[1] Although fatigue is a phenomenon that every person recognizes readily in a subjective way, physiologists still are struggling with the objective interpretation of its nature. One may read of the alleged accumulation of "fatigue substances," notably in the muscles, and of the circulation of products of overwork that are not ordinarily present in the blood; but a well founded theory of the nature of fatigue remains to be formulated. It is known that prolonged muscular activity, and particularly contractile effort under the influence of a lessened supply of oxygen, may lead to appearance of unusual quantities of lactic acid, among other demonstrable substances. These can exert noticeable changes on various bodily functions, such as respiration, the heart beat, and the irritability of the muscle itself. The mere statement of such demonstrable effects, however, gives only partial insight into the far-reaching consequences that may be involved.

One of the "antidotes" to fatigue is rest, which affords an opportunity for recuperation. There is a widespread belief that resistance to infection is promoted by bodily rest, and a common method of combating it consists in promoting rest. A recent writer has even referred to the doctrine that the pain of injuries is beneficial because it secures local rest, which promotes healing; and he suggests that it may reasonably be extended to the general malaise of infections. It might be assumed as a possible corollary of this that fatigue conduces to susceptibility to infection. Experiments to test this hypothesis have not been entirely lacking. Abbott and Gildersleeve,[2] observing that animals fatigued by running exhibit a depression of the opsonic index, concluded that they must have a greater susceptibility to bacterial infection. The experiments of Spaeth at Johns Hopkins University lent no support to such a conclusion.[3] On the other hand, observations of Boycott and Price-Jones[4] at the University College Hospital Medical School, London, reopen the entire question. They demonstrate that under certain circumstances fatigue does promote infection. All-inclusive statements should not be made. Thus, an amount of exercise sufficiently severe to delay substantially the normal increase of weight of growing animals did not break down their natural resistance to tuberculosis. The feature deserving of emphasis at this time is the necessity of more exact information on a large variety of specific features of possible interrelations between fatigue and disease. At a period when industrial efficiency and the bodily welfare of the worker is a prominent topic of serious discussion, the bearing of the possible relation of fatigue on the causation and the prevention of infectious diseases in industrial work is sufficiently obvious. Lee has, indeed, pointed out that the identification and treatment of industrial diseases and the appreciation of industrial hazards to health and ways of preventing them are parts of the general modern recognition of the importance of the individual and the duties of society toward him. Here, Lee adds, the physician, the philanthropist and the legislator have worked in helpful partnership.

THE STRUCTURE OF PROTEINS AND OF LIVING TISSUES

It is now a score of years since Emil Fischer made his great contribution to our knowledge of the nature of proteins, showing that they are constructed, at least in part, of chains of amino-acids united to one another by their basic and acid radicals, forming the so-called peptids. This construction had already been suggested by Hofmeister, but it was Fischer who first really proved it by finding such peptids among the products of incomplete cleavage of proteins, by producing such polypeptids by synthetic means, and by showing that these synthetic peptids are digested by trypsin and erepsin.[5] Following these discoveries, it was generally thought for a time that proteins consisted of great series of such chains of amino-acids, containing varying numbers of the score of amino-acids known to occur in proteins, in different proportions and groupings. Many of the properties of proteins are compatible with such a structure, but it was soon found that there are other properties that cannot be attributed to simple chains of amino-acids. Proteins are far too labile and reactive to correspond to such a simple and relatively stable structure. Consequently, biologic chemists of late have been turning their attention particularly to the solution of the problem of the exact arrangement of the amino-acids in the protein molecule. Reasons have been advanced for believing that some, at least, of the amino-acids are united to one another at two or more points, to form ring compounds, instead of end to end in chains; but just what the ring compounds are or how large a proportion of the entire protein molecule they form, is still completely unknown. Abderhalden, Karrer, Bergmann, Troensgaard and others have brought forth evidence and theories as to these ring compounds in the proteins, but the final solution of the problem is not in sight.

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[1] Lee, F. S.: The Human Machine, New York, Longmans, Green & Co., 1918.

[2] Abbott and Gildersleeve: The Influence of Muscular Fatigue and of Alcohol on Certain of the Normal Defenses, Univ. Pennsylvania M. Bull. **23**: 169, 1910.

[3] Fatigue and Resistance to Disease, editorial, J. A. M. A. **79**: 2165 (Dec. 23) 1922.

[4] Boycott, A. E., and Price-Jones, C.: Experiments on the Influence of Fatigue on Infection, J. Path. & Bacteriol. **29**: 89 (Jan.) 1926.

[5] An excellent discussion of protein structure is given by Andrew Hunter in his Presidential Address before the Royal Society of Canada (Tr. Roy. Soc. Canada, May, 1925). Compare Abderhalden; Naturwissenschaften **12**: 716, 1924.

Hunter and his colleagues have studied the disintegrative action of different proteolytic enzymes on proteins to see what light can be obtained in this way as to protein structure. They believe their observations show that proteins certainly contain some combinations of amino-acids different from the simple end-to-end chains of the peptids of Fischer, but probably such peptids form the greater part of the protein molecule, apparently 70 per cent or more, except perhaps in the insoluble scleroproteins, such as keratin. How the amino-acids are arranged in relation to one another is still an almost untouched field, although Dakin, Hunter and others have made a start. How difficult the problem is may be realized when it is recalled that a single protein molecule may contain fifteen different amino-acids, united to form a molecule of a size indicated by its molecular weight, which recent observers[6] estimate at from 10,300 for gelatin to 192,000 for casein, with egg albumin (33,800), fibrin (42,000) and serum globulin (81,000) in intermediate positions.

If we still lack exact knowledge of the structure of isolated proteins, which are dead, inert, relatively inactive compounds, we are undoubtedly still less well informed about the proteins that occur in living tissues, for there is certainly reason to believe that the latter are in some important way different from isolated proteins, like casein, or reserve food proteins, like egg albumin or edestin, or even from the dead tissue protein found in market meat. Loew[7] has considered at length the nature of the "labile" proteins of living cells, as compared with dead tissue proteins or chemically isolated proteins. That there are differences is shown by the fact that agents such as hydrazine, hydroxyl amine and hydrocyanic acid, which have no effect on dead proteins, have a profound effect on the proteins of living cells, even when greatly diluted. Loew suggests that this sensitivity of the labile proteins depends on the presence in them of extremely active aldehyde radicals, which are lost, combined or inactivated in the dead proteins. Others have suggested that the lability depends on the highly developed surfaces of the emulsions which these colloids form with lipoids in the living cells, which are rapidly altered with the development of asphyxial acidity in the tissues after death. Complex as this problem is, its solution would still leave us far from an explanation of the essential nature of living tissues, since the life activities depend on extremely complex organizations of labile proteins in enzymes and into such structures as chromosomes, nucleoli and nuclear membranes. Apparently as yet we have gone little beyond the initial steps of survey of the problem of the structure of living cells; at least so it seems when we observe our distance from the goal. But when we look back to the state of our knowledge of this subject in 1900, it seems that at least a creditable beginning has been made.

MARASMUS AND PROTEIN HYPERSENSITIVENESS

The classic experimental instances of the form of allergy more properly designated as protein hypersensitiveness have been induced by injection of the antigenic substances into test animals. It has been well established that, whereas proteins of the most varied origins may function as sensitizing agents in this way, the disintegration products of the albuminous substances no longer retain this potency. Thus, albumin is antigenic; the peptones and amino-acids obtained from it by digestion or otherwise are not. Realizing that the processes of alimentation are supposed to lead to disintegration of the protein molecule, it has been easier to understand why persons are not sensitized by the proteins that they consume. It would, indeed, be a serious menace to our well being if every occasional intake of a food protein of unusual origin were likely to lead to hypersensitiveness to it. For most instances of such allergy the assumption has sufficed that the introduction of minute traces of the antigen into the circulation occurred through mucous membranes of the nasopharynx. Of late it has been observed, however, that under certain conditions the alimentary barrier is not as perfect in its protective functions against unchanged proteins as was assumed. Thus, Anderson and Schloss,[1] who examined the blood of ninety-eight marasmic infants for precipitin to cow's milk, obtained a positive test in eight subjects. Precipitin was not present in the blood at all times, but in some cases it was found in only a relatively small number out of the total examinations.

Anderson and Schloss believe that the presence of precipitin to cow's milk protein in the blood of marasmic infants almost certainly indicates that such protein with antigenic properties has entered the blood stream at some time. They have shown directly, however, that foreign protein is absorbed during diarrhea, and that such absorption is followed by the appearance of precipitin and the anaphylactic antibody. From a new study[2] in the same department at the Cornell University Medical School, it is apparent that the enteral absorption of antigenic protein by normal or marasmic infants leads not only to the appearance of a specific precipitin in the blood, but also in many cases to cutaneous hypersensitiveness. The results also indicate that there is a definite coincidence between the appearance of the skin reaction and the presence of precipitin in the blood. According to Anderson, Schloss and Myers,[3] the phenomenon of precipitin formation observed in normal infants is strikingly different from that observed in marasmic infants. In the latter, the continued ingestion of cow's milk may fail to provoke the production of precipitin until the lapse of many weeks, while in normal infants precipitin appears promptly after the first ingestion of cow's milk. Furthermore, the degree of precipitin formation in marasmic infants is much more marked than in normal infants, indicating an absorption of relatively larger amounts of antigenic protein. Judging by the duration of precipitin in the blood, marasmic infants absorb antigenic protein from the intestinal tract over a much longer period of time than do normal infants.

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[6] Cohn, E. J.; Hendry, J. L., and Prentiss, A. M.: The Molecular Weights of Proteins, J. Biol. Chem. **63**: 721 (April) 1925.

[7] Loew, Oscar: Ueber labile Eiweisskorper, Munchen. med. Wchnschr. **72**: 898 (May 29) 1925.

[1] Anderson, A. F., and Schloss, O. M.: Allergy to Cow's Milk in Infants with Nutritional Disorders, Am. J. Dis. Child. **26**: 451 (Nov.) 1923.

These observations demonstrate that when normal infants ingest cow's milk, egg albumin, sheep serum or almond for the first time, sufficient protein is absorbed in antigenic form to provoke the production of specific precipitin in the blood. The early disappearance of the precipitin would seem to indicate that such absorption is of relatively short duration. Phenomena such as those here discussed raise anew the question as to whether the entrance of foreign protein into the blood stream bears any causative relationship to the nutritional disorder known as marasmus.

Current Comment

PEAKS OF MEDICAL HISTORY

Following the announcement in THE JOURNAL that a class of medical students had chosen as the greatest names in medical history those of Pasteur, Hippocrates, Harvey, Osler, Lister, Koch, Galen and Laënnec, the editor of the *Medical Press and Circular* conducted an inquiry among British medical historians. To this Power, Comrie, Moon, Spencer, Crawfurd, Mortimer and others contributed their views. The final selections of the group classified by votes indicated the following choice: Harvey, 10; Hippocrates, 9; Sydenham, 8; Pasteur, 8; John Hunter, 5; Galen, 3; Vesalius, 2 and Celsus, Leonardo da Vinci, Morgagni, Laënnec and Lister 1 each. It has been argued that Galen is of greater importance than Hippocrates because of the somewhat legendary character of the latter and because the galenic system dominated medicine for fifteen centuries. On the other hand, it has been urged that medieval darkness alone enabled the galenic system to uphold its supremacy for so long a period. The present inquiry recalls an investigation reported by Dr. Charles L. Dana in 1919.[1] He studied Cattell's list of the most eminent thousand men of all time. There were no physicians among the first hundred, and only two, Hippocrates and John Hunter, among the second hundred. Based on our present knowledge of what scientific medicine has meant to the world, Cattell's list can be considered only as proof of the fact that the world is slow to recognize the value of medical discovery. The eminent thousand were selected on the basis of space and attention given to men in various encyclopedias and biographic works. An analysis of the history of medicine led Dr. Dana to the demonstration of six great peaks, each dominated by a group of outstanding men. In such a study the names of Hippocrates, Galen, Vesalius, Harvey and Jenner become especially prominent. After all, the function of such estimates is to lend a vicarious interest to what medical students are inclined to regard as a somewhat stupid adjunct to the medical curriculum. If that interest will be sufficiently inspiring to stimulate even a modicum of original reading, leading to a true perspective, it will serve a valuable purpose.

CARBOHYDRATE UTILIZATION IN RENAL DIABETES

The advent of microchemical analysis of the blood has made possible a more accurate differentiation of different types of glycosurias, particularly with respect to their therapeutic indications and prognostic features. One definite consequence, for example, has been the clearer identification of the abnormality of function commonly designated as renal diabetes. The cardinal features indicative of this condition have been concisely described as persistent glycosuria that is relatively independent of diet and is not attended with hyperglycemia or other indications of classic diabetes. Despite these differentiating features, some clinicians of experience have hesitated to permit this type of glycosuria to be divorced too readily from diabetes mellitus. Joslin,[2] for example, admits that the prognosis of renal glycosuria is good, but asserts that it must be guarded "because of the possibility of the change of a supposed renal glycosuria into true diabetes." It is worth while, therefore, to examine the cases of glycosuria without hyperglycemia from every angle that may throw light on the pathologic factors involved. There are already a considerable number of cases of sufficiently long standing without development of more untoward symptoms to give emphasis to the *presumable individuality* of renal diabetes as a separate entity. This has recently been accentuated by

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[2] DuBois, R. O.; Schloss, O. M., and Anderson, A. F.: The Development of Cutaneous Hypersensitiveness Following the Intestinal Absorption of Antigenic Protein, Proc. Soc. Exper. Biol. & Med. **23**: 176 (Dec.) 1925.

[3] Anderson, A. F.; Schloss, O. M., and Myers, Constance: The Intestinal Absorption of Antigenic Protein by Normal Infants, Proc. Soc. Exper. Biol. & Med. **23**: 180 (Dec.) 1925.

[1] Dana, C. L.: Eminent Physicians, the Charaka Club **5**: 97, 1919.

[2] Joslin, E. P.: Treatment of Diabetes Mellitus, Philadelphia, Lea and Febiger, 1923.

Paullin[3] of Atlanta, who has observed the effects of administration of glucose to suitable patients with renal glycosuria. Under such conditions they respond with a pronounced rise in the respiratory quotient, indicative of carbohydrate combustion, in the same way as normal persons do. Paullin consequently believes, as others[4] have maintained, that the patients metabolize and store carbohydrate in the usual way, in harmony with previous suppositions.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Held in Chicago, Feb. 15, 16, 17 and 18, 1926

(Continued from page 696)

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

February 16—Morning

Saving Time in Education

IN HIGH SCHOOL AND COLLEGE

Charles H. Judd, PhD., Chicago: It has long been known that preparation for entrance on the practice of medicine is delayed in America. The cause for this delay has been sought by those interested in medical education in the college. The real difficulty arises much further back in the American educational system. There is waste in American schools because too much time is spent on elementary education and because the different units of the educational system are not closely articulated. It is difficult to bring about a reorganization of the schools of the United States because these schools are locally controlled. The development of an intermediate unit between the elementary school and the high school, known as the junior high school, is a promising move in the direction of a better adjustment of the educational system of this country. This readjustment requires the preparation of new materials for teaching and requires also an intelligent public opinion. If the reorganization can be completed at this point and can be paralleled by similar reconstruction between the high school and the college and the college and the professional school, time and energy can be saved and a much higher degree of intellectual maturity can be obtained than is secured by the present system. What is needed in order to effect all these reforms is not the establishment of some central authority with arbitrary power, but a thorough scientific understanding of the problems of education.

IN THE MEDICAL SCHOOL BY SHORTER VACATIONS, QUARTER SYSTEM, OR OTHER METHODS

Dr. Ray Lyman Wilbur, Stanford University, Calif.: This paper will be published in full in The Journal.

Graduate Medical Education

THE UNIVERSITY GRADUATE MEDICAL SCHOOL AND MEDICAL SCIENCE

Guy Stanton Ford, PhD., Minneapolis: If the development of research and advanced study in medicine parallels the history of the development of every other field, they will owe their nativity and their nurture to the fostering care and guidance of great universities. In these and in these alone can they find that close association with both the parent and coordinate sciences whose contributions and achievements, whose standards, aims and technics can guide, inspire and support medical education on the research or graduate level. The four essentials of graduate study are a growing body of clinical teachers who have abandoned opinion and the exploitation of skills for experimentation and investigation; a body of students adequately prepared to follow the new leadership; an equipment in hospitals, in clinical material, and in laboratory and other facilities; a body of data and methods of acquiring new facts that are measurable and comparable. To these four essentials, medicine adds an intimate relation with the oldest and most important and dominant disciplines, those of physics, biology and chemistry, and their progeny, biophysics and biochemistry. The aims of graduate medical work are two: There is first the training of the researcher and independent worker in the field of his aptitude and choice. The second is to give to society intensively trained and properly certified specialists who have also in the course of their training had a glimpse of the scientific method and approach to clinical cases as problems. Administration is a matter of making the graduate medical organization fit its function as here outlined. That the medical school faculty should as fully control graduate work as it does the undergraduate medical curriculums is a perfectly comprehensible theory of control. But only a wholly unsympathetic attitude on the part of the existing graduate organizations justifies a separate organization in medicine or any other field. If attempted, it is likely to cut off staff and students from those fruitful contacts that come from free intercourse with all those fields of active research which are basic to medicine as a biologic specialty.

In discussing medical science and the problem of its future, all will agree that the adjective "medical" is a convenience which brings before us not a new or different science of either a higher or lower order but a series of problems furnished by the pathologic physiology of one biologic group—our own human kind. The essential unity of science is not a phrase but a profound conviction that must lie at the basis of approach to every major problem. This discussion seeks to emphasize the gain for all medical education and the necessity for medical research and science, of recognition of the parent fields. Graduate medical work is dependent on its intimate relations with all other departments of the university. Physically and administratively, all the fields cognate and contributory to medicine should be housed and directed in the closest possible intimacy. Medicine when put on a true university basis is properly in the hands of a faculty that joins the professor of physics, the professor of biology and the professor of chemistry with the pathologist, the physiologist and the internist.

If we turn our attention to the business of developing and forwarding the science itself through the work of devoted and competent scholars, we can distinguish three different ways in which it is being done. There is, first, the significant service performed by the single researcher who by his individual effort synthesizes and applies to complex problems the methods and the past contributions of several fields. The second agency is the group of associated workers selected from various sciences and combined as collaborators in one endowed research institution or more informally cooperating across departmental lines within the framework of a great teaching university, and recruiting and initiating younger scholars from the graduate teaching body. The third method, that of geographically separated workers organized in a great cooperative attack on a problem, is the most difficult to coordinate. It is nevertheless necessary, since the workers vital to the solution of complex problems are never located in one center, either an institute or a university. What is needed at present to aid in the development of all three types of investigation is a flexible, intelligent, far-visioned national institute for medical research, well supplied with funds. My challenge to this council is to make itself the agency for organizing on a broad, inclusive basis such spiritual and financial support for medical science.

POSTGRADUATE ASSEMBLIES

Dr. William B. Peck, Freeport, Ill.: In presenting the question of medical assemblies, I refer to any group of men in the active practice of medicine who are gathered together for the purpose of increasing their knowledge on subjects of a medical nature. Some authorities tell us that the small group assemblies are best adapted for the distribution of medical information It is not a question of the size of the assemblies but of the character of the program presented Both operative and diagnostic clinics are essential factors in the success of the meeting The danger of overcrowding programs of medical assemblies has been emphasized But in arranging a program of such magnitude that it must cover all the different branches in the science of medicine, it is necessary to show courtesy to the specialties, as well as to general medicine These assemblies give the specialist and the general practitioner a chance to become acquainted Ways and means should be provided whereby any physician, regardless of his location, will be furnished with the opportunity of obtaining education A big medical assembly is not a one man job If it is to prove a success, it must have the cooperation and support of many great minds The things that play the greatest mischief in large medical organizations are politics and red tape The thing that destroys the success of small societies is the appointment of too many committees The things that build up medical organizations are good programs, hard work and good places of meeting The public press should receive the greatest possible courtesy from the medical profession When a big medical assembly meets in a city it is but natural that the press should wish to know "what it is all about," and it is up to the press committee to give the proper information

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[3] Paullin, J. E.: Glucose Utilization in Renal Glycosuria, Arch. Int. Med. **37**: 88 (Jan.) 1926.

[4] Finley, F. G., and Rabinowitch, I. M.: Renal Glycosuria, Quart J. Med. **17**: 260 (April) 1924. Ladd, W. S., and Richardson, H. B.: Clinical Calorimetry, XXXVIII, The Utilization of Carbohydrate in a Case of Renal Glycosuria, J. Biol. Chem. **63**: 681 (April) 1925.

UNIVERSITY EXTENSION WORK: AN ADVENTURE IN PUBLIC HEALTH EDUCATION

Dr John Sundwall, Ann Arbor, Mich The medical profession is mindful of the lamentable ignorance of the laity in general regarding the fundamentals of health promotion and disease prevention, and of the wide gap existing between scientific medicine and the attitude of the general public toward and knowledge of it We know, also, that it is because of this gap that mountebanks, pseudomedical practitioners and "healing cults" thrive by exploiting superstitions, engendering fears and ignorance relative to the body in order and out of order and by grossly discrediting scientific medicine, with the masses, whenever and wherever possible In recent years, scientific medicine has been paying increasing attention to the problem of closing up this gap With this purpose and in an altruistic spirit, the Joint Committee on Public Health Education in the State of Michigan was organized The committee was not concerned with going out to fight pseudomedical and other fraudulent medical practices Its purpose was and is to get medical truths to the people The first meeting brought out the fact that the extension division of the University of Michigan possessed the organization and machineries whereby the work of the joint committee could be most advantageously carried on, and was prepared to furnish at once audiences for lectures in practically every township of the state Naturally, the director of the extension division was included as one of the university's representatives on this committee, and became its chief executive officer Early the value of cooperation was appreciated Why not include representatives of other state-wide health agencies in this good work? was asked, and for the first time in the history of the state, representatives of these various agencies sat in council together Experience is demonstrating that the most fruitful fields for this type of public health education are parent-teacher associations and high school groups Furthermore, we have learned that the lecture program must be well organized, supervised and adapted to the particular groups addressed An experiment will be made in the near future to see whether results merit the sending of speakers into industrial plants during the noon hour In addition to supplying lectures the joint committee finds that it must pay attention to various problems closely interrelated with public health education One of its subcommittees has made a study of and reported on the nursing situation in the state of Michigan Another subcommittee is working on a plan for supplying the state press with timely articles on matters pertaining to health Still another committee has prepared a report on courses which might be given by colleges and universities in order to give women an elementary knowledge of the care of the sick Our adventure in health education, so far, has demonstrated beyond doubt that people want to know fundamental truths of both preventive and curative medicine The public sees the physician as a teacher and educator The physician gets a new and interesting aspect of the public A splendid spirit permeates the committee To states wherein there exists untoward duplication, misunderstandings, and friction between the various official and voluntary health agencies, let me suggest as a remedy a joint committee on public health education

DISCUSSION

Dr T C Routley, Toronto, Canada There are probably four ways by which we can keep up to date through experience and practice, through contact with our fellows, by reading and taking advantage of such postgraduate facilities as are offered I am sure extramural work will give to the profession that something which it needs, particularly in the rural areas, and at the same time will make the people feel that the medical profession is endeavoring to do its bit

Gilbert E Seymour, Milwaukee I suggest that in the education of the public and the profession there be some effort toward the standardization of literature in the education of the public, and that plain language be used in respect to the copying of textbooks, one generation after another Cooperative effort of the state medical societies, the university medical school, and the extension division, is the ideal arrangement.

Dr Edward Evans, La Crosse, Wis For the last four years, especially the last three, we have issued in Wisconsin what is called a lay number of our state magazine That magazine went out this year to about 8,000 people Secondly, we have been sending *Hygeia* to the same class of people as a Christmas present, a year's subscription, for the last two years We really think we have educated not only the people in public health matters but also, I believe, our legislators to recognize that the medical profession is not a medical trust, but is deeply, earnestly and intelligently concerned in their welfare

Dr J C Litzenberg Minneapolis I believe the biggest thing in the success of our work in the graduate medical education department at the University of Minnesota has been the fact that we are under the direction, under the administration of the graduate school There is no friction between the medical school and the graduate school

Dr Guy S Ford, Minneapolis That there can still be found textbook material which represents antiquated ideas rests not only on the man who produces those textbooks but also on the men who review those textbooks A few reviews which look unfavorable to an author who did that kind of thing would put a quick end to the promulgation of an ancient error I want to see this council on medical education the parent organization of some kind of national institute

Dr Ray Lyman Wilbur, Stanford University, Calif : I should like to present my approval of Dr Judd's paper The time is coming when the medical educator will insist on having time saved in the school before we get to medicine, but I think that until we get to saving it in the medical school we are not exactly on the firmest basis in connection with the schools lower down

Dr Arthur Dean Bevan, Chicago What we most need is some machinery by which we can bring about this saving of two years within a reasonable period of time Would it be possible to create such machinery that would take the place of some national power that could study and finally dictate to the country the general scheme that should be adopted?

Dr B D Meyers, Bloomington, Ind We have this machinery working in Indiana Many students get the advantage of double promotion twice in the first six years, so that they enter junior high school with one year already saved A student may begin his Latin in junior high school Then, a capable student has the opportunity in high school of carrying not four subjects but five subjects It makes a total of four semesters, or two years saved

Albert B Dinwiddie, New Orleans The eighth grade is a grade in which the student simply marks time The New Orleans schools recognize that However, because of local difficulties they have been unable to come down to the seventh grade basis. They have put three high school subjects into the eighth grade.

Frederick C. Waite, Ph.D., Cleveland: During the first hundred years of medical education in this country the student had no vacation whatever. The education was divided into two phases: one in the school, the other under the preceptor. The schools abolished the preceptor but gave the student nothing to take up the time when he had been taught by the preceptor.

Dr. Thomas J. Crow, Dallas, Texas: I believe the educational institutions of this country should pay more attention to the fundamentals and that in that way we would get along faster.

Dr. Edwin G. Earl, Chicago: There is not a parent on the face of the earth who, if his child could save a year or two in school, would not want him to do it. Tradition, in connection with the colleges, is forcing these things on the secondary schools and the primary schools.

Dr. Augustus S. Downing, Albany, N. Y.: I want to dissent in connection with that proposition. The loss of time is in the elementary schools and in the high schools. Put your boy into college at 16 years of age and open up an entirely new field of knowledge to him. You will, in this way, have men at 18 years who can go on and take the medical instruction.

Charles H. Judd, Ph.D., Chicago: If this organization will study the whole problem of education and cooperate, I think that a great many of the difficulties touched on by the various speakers can be removed.

Dr. Ray Lyman Wilbur, Stanford University, Calif.: We can do what was suggested by Professor Judd. Individual students are doing it, as is shown from what Dr. Meyers said. At the same time, we can adopt, through our medical schools, a method in which we can use practically the whole calendar year.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

ARIZONA

Society News.—The Yuma County Medical Society held a special meeting recently to which representatives were invited from the Imperial County Medical Society and the Maricopa County Medical Society. Drs. George R. Stevenson, Maynard C. Harding, Clarence E. Rees and Lyell C. Kinney, all from San Diego, were present, also Drs. Charles S. Vivian, William A. Schwartz and William Warner Watkins from Phoenix, and Dr. Charles S. Brooks from El Centro; there was a dinner and a scientific program. Yuma County hopes that the inauguration of this type of joint meeting will be followed by others.——The Cochise County Medical Society recently raised its dues to $12 a year.

CALIFORNIA

Washington Sanipractor Arrested.—Edwin F. Ott, who holds a license to practice sanipractic in the state of Washington, was recently arrested at Riverside, Calif., for violation of the medical practice act. Ott was released without bail pending a hearing, local officials who attended the same church having assured the judge that he would appear; Ott failed, however, to appear for a hearing and was said to have gone back to Washington to resume sanipracticing. The investigation showed that, while at Riverside, Ott had been giving "capsules containing powders and a liquid medicine." Sanipractors are said to be "drugless healers."

Miscellaneous Items.—The city health officer of Los Angeles announced, February 17, that more than 100,000 persons had been vaccinated since the outbreak of smallpox in that city some months ago.——Due to a recent increase in rental for offices, physicians of San Jose are planning to erect a $500,000 medical arts building.——Dr. Charles A. James has been appointed a member of the board of health of Fresno to succeed Dr. William W. Cross, Jr., who has moved to Oakland.——The summer term for postgraduate work at the University of California Medical School, San Francisco, begins June 7 and ends July 3, during which time, courses for qualified graduates in medicine will be offered in a variety of subjects.

ILLINOIS

Personal.—Dr. John W. H. Pollard, formerly of Quincy, has been appointed commissioner of health of Evanston, effective April 1, to succeed Dr. Clarence T. Roome, resigned.——Dr. Elias S. McCord, Delmar, has been appointed coroner of Clinton County.——Dr. Thomas G. Hall has resigned from the Dixon State Hospital to engage in private practice in St. Louis.

Fifty Years in Practice.—Members of the Madison County Medical Society, Edwardsville, held their annual banquet, February 22, at the Country Club to celebrate Dr. Edward W. Fiegenbaum's completion of fifty years in the practice of medicine in Edwardsville. Dr. Benjamin H. King, Granite City, president of the society, was toastmaster; the principal speaker was U. S. Attorney Thomas Williamson; other guests were Dr. Jonathan L. Wiggins, East St. Louis, and Dr. William F. Grinstead, Cairo. Dr. Fiegenbaum, who is secretary of the society, was presented with a watch and chain valued at $250.

Mental Hospital Partially Completed.—Four units of U. S. Veterans' Bureau Hospital no. 105, located opposite the Great Lakes Naval Training Station, were opened March 1, and twenty patients from the state hospital for the insane at Elgin were admitted. The capacity of the hospital when the other units are completed will be 1,000, and mentally ill veterans from Kankakee, Jacksonville, the Edward Hines Hospital, and Camp Custer, Mich., will be transferred to this hospital. The staff at present is said to comprise six physicians, fifteen nurses and other attendants. Dr. Oscar C. Willhite, medical officer in charge, has served in government hospitals at Perryville, Md., Knoxville, Iowa, Ann Arbor, Mich., Lakewood, N. J., and Fort McPherson, Ga.

Chicago

Society News.—Maud Slye, Ph.D., addressed the Chicago Pathological Society, March 8, on "Some Misconceptions Regarding the Relation of Heredity to Cancer and Other Diseases"; Edmond R. Long and Florence B. Seibert, Ph.D., on "The Nature of the Active Principle in Tuberculin," and Dr. Henry C. Sweany on "Mutation Forms of the Tubercle Bacillus."

Personal.—William H. Taliaferro, Ph.D., associate professor of parasitology, University of Chicago, will sail for Tela, Spanish Honduras, March 20, to make a serologic study of malaria; his headquarters will be at the hospital of the United Fruit Company.——Dr. Herman L. Kretschmer has resigned as attending genito-urinary surgeon to the Alexian Brothers Hospital.

KENTUCKY

Miscellaneous Items.—Dr. Clarence J. Broeman, Cincinnati, addressed the Boyd County Medical Society, Ashland, recently, on "Radium Therapy."——The Madison County Medical Society held a tuberculosis clinic at Berea, February 25; the local physicians were assisted by Dr. James S. Lock of the bureau of tuberculosis of the state board of health.——Following the testimony of seven physicians at Ashland, Judge Woods dissolved the order of the court which restrained health officials from vaccinating school children against smallpox, and gave the antis twenty days in which to file briefs in the court of appeals.——The Pikeville General Hospital and the Methodist Hospital, Pikeville, have merged; the patients of the former are being moved to the new building of the Methodist Hospital.——Dr. Henry H. Bishop, Louisville, has resigned from the staff of the urologic department of the City Hospital.

LOUISIANA

Physician Convicted.—Dr. Albert R. Bush, Bassier, was convicted at Shreveport, February 25, it is reported, on five counts of violating the Harrison Narcotic Law. Dr. Bush is the first of several physicians in that vicinity who were charged with violations of the Harrison Narcotic Law to go to trial; he was released under $2,500 bonds, while awaiting sentence (The Journal, Feb. 28, 1925, and March 21, 1925).

Society News.—Dr. Harry Gideon Wells, professor of pathology, University of Chicago, addressed the Orleans

Parish Medical Society, New Orleans, February 22, on "The Relationship of Heredity to Cancer."——Dr. David E. Brown, Chatham, is now director of tuberculosis control for the Louisiana State Board of Health.——Dr. Carleton Simon, formerly deputy police commissioner of New York City, is in New Orleans to survey the narcotic situation in Louisiana.——Dr. William H. Seemann, New Orleans, has been elected president of the Tuberculosis and Public Health Association of Louisiana, and Drs. Hector E. Bernadas and Homer J. Dupuy, Jr., vice presidents.

MASSACHUSETTS

Hospital News.—Mr. Earle P. Charlton, president of the Charlton Mills, has given to the Truesdale Hospital, Fall River, $500,000, with which it is planned to provide new operating rooms, laboratories, power plant, laundry, kitchen and dining room for nurses.

Boston Medical Library.—At the fiftieth anniversary, recently, of the Boston Medical Library, Dr. George H. Monks was reelected president; Drs. William N. Bullard, Homer Gage and George G. Sears, vice presidents; Dr. Walter L. Burrage, secretary; Dr. Richard G. Wadsworth, treasurer. Dr. John W. Farlow has been the librarian for twenty years.

North Shore Medical Fraternity.—Dr. Ernest Granville Crabtree, Boston, addressed the February meeting of the North Shore Medical Fraternity, Lynn, on "Some Common Conditions in Urology as Seen by the General Practitioner"; Dr. Bernard Goldberg, Boston, addressed the January meeting on "Therapy in Heart Disease"; Dr. Richard H. Miller, Boston, will address the fraternity, March 16, on "Acute Surgical Conditions of the Abdomen."

MICHIGAN

Society News. — The Wayne County Medical Society, Detroit, and the American Congress on Internal Medicine held a joint meeting at the Book-Cadillac Hotel, February 23. The March 2 meeting of the Wayne County Medical Society was "state medical society night"; the program comprised five speakers from the state medical society.

Measles in Infants.—Among 4,384 cases of measles in Detroit, in January, there were forty-six deaths, a mortality rate of 1.05 per 100 cases; 112 of these cases and sixteen of the deaths were in infants under one year of age; 291 cases and thirteen deaths were in children between 1 and 2 years of age. A tabulation by the department of health of the cases and deaths by age shows that the infant is ten times more likely to die from measles than the child of any other age except from 1 to 2.

MISSISSIPPI

Society News.—The Pike County Tuberculosis Association has selected Riverside Lodge, ten miles east of McComb, as the site for the children's health camp next summer, which will be the first county health camp to be organized in Mississippi; the state board of health is cooperating; children who are undernourished and underweight may attend the camp under the supervision of nurses and physicians.

Another Antievolution Bill.—Both houses of the Mississippi legislature recently passed an antievolution bill. Students of the University of Mississippi have petitioned the governor to veto the measure. The petition from the law school students pointed out to the governor that the enactment of this bill would interfere with the higher institutions of learning in the state, particularly those which give courses in the medical sciences. The bill originated in the house; it passed the senate by a vote of twenty-nine to sixteen. The bill provides that the teaching of the theory that man ascended from a lower form of animal life shall be debarred from tax supported schools.

NEW JERSEY

Illegal Practitioners Fined.—Ellsworth Pierce, naturopath, Bridgeton, was tried, recently, in the court of common pleas on a charge of practicing medicine without a license; judgment was entered for the penalty and costs; Frona Bowen, Riverside, has pleaded guilty in the court of common pleas, Mount Holly, to a charge of practicing medicine without a license and paid the penalty; Hugh and Electra Anderton, Jersey City, paid the penalty, January 7, for the same offense.——Vernon P. Cox and Herman Staller, Atlantic City, and George C. Lezenby, Jr., were tried, Nov. 4, 1924, for practicing medicine without a license; they practiced electrotherapy; judgment was entered for the first two cases, and Lezenby paid the penalty.

NEW YORK

Hospital News.—Following the drive for funds in which $1,200,000, was pledged, plans for the new North Country Hospital, Glen Cove, L. I., have been approved; more than $500,000 of the amount pledged has been received.

Society News.—The New York Society for Clinical Psychiatry held its regular meeting, February 11, at the U. S. Veterans' Hospital 81, Sedgwick Avenue and West Kingsbridge Road, Bronx, N. Y. Dr. Chester L. Carlisle and other members of the staff of the hospital held a clinic demonstrating schizoid mechanisms with manic-like syndromes.

New York City

Increase in Rabies.—The New York City Department of Health announces that measures will be taken to enforce rigidly the dog-muzzling ordinance, in view of the increase of rabies in New Jersey and Westchester County. The records of the department show that there has been an increase of more than 100 per cent in the number of dog-bites since 1921, when there were 3,049, as compared with 7,030 in 1925, and that the number of rabid dogs increased from forty-four in 1920 to seventy-six in 1925. A study of these animals shows that the poodle is the most frequent offender. The cooperation of the public is requested in this campaign.

Public Health Reserve Corps Abolished.—Health Commissioner Harris abolished the public health reserve corps of the New York City Department of Health, February 13. The corps is said to have consisted of public groups over which it was necessary for the health department to exercise supervisory functions; the arrangement sometimes embarrassed the health department in enforcing the law. Dr. Harris is anxious to profit by suggestions which groups of citizens may be able to furnish, but he considers that the public health reserve corps performed no function of significance. The residuary fund of the corps, amounting to more than $600, will be distributed equally among Protestant, Catholic and Jewish charities.

Directors of Roentgen-Ray Laboratories.—The board of health, February 6, amended the regulation concerning persons authorized to conduct and maintain roentgen-ray laboratories, so that it now reads: "Every X-ray laboratory shall at all times be in charge of and under the direction of a duly licensed physician or other person who is licensed under the laws of this state to diagnose and to treat diseases, and whose knowledge, experience and qualification to use an x-ray machine are satisfactory to the health department." The change seems to have been brought about by a ruling of the court of appeals which required the department of health to issue a permit to a nonmedical person to whom a permit had previously been denied.

Annual Meeting of Near East Relief.—At the annual convention of Near East Relief, Hotel Pennsylvania, March 4, awards for distinguished service were bestowed on forty-four workers of that organization, among whom were Dr. W. W. Peet, a native of Massachusetts, and many nurses. In the typhus epidemic of 1924, fifteen physicians and nurses of Near East Relief are said to have lost their lives. During 1924, Near East Relief served 68,158 children, variously located in orphanages, homes, native schools, hospitals, refugee camps, industrial groups and clinics, and for the first time in its eight years of service, had a balance at the close of the year. The total receipts for 1925 of the organization were about $4,750,000, and the total amount expended in aiding refugees and orphans, since its organization in 1915, is $81,787,779.

Verdi's Masterpiece to Aid Physicians' Home.—At the benefit performance, Sunday, April 11, the Metropolitan Opera Company will render Verdi's masterpiece, "The Requiem Mass"; the cast will include Signor Beniamino Gigli, Madame Easton, Signor Mardones and Madame Telva, and M. Serafin will conduct with the full Metropolitan orchestra and chorus. The proceeds of this performance will go to purchase the estate of the late Edward M. Knox at Richfield, Conn., for a unit for The Physicians' Home for old and incapacitated physicians and their dependents. The estate can be purchased for $125,000, although it represents a much larger investment. Downsbury Manor, as the place was called, has fifty rooms, is located on a large tract of woodland and meadow with gravel paths, roadways, gardens and farms, among which are scattered fourteen other buildings. The manor is combination stone and shingle. From a tower in the woods the whole estate may be viewed, and, on some days, the view includes parts of the states of Vermont, Massachusetts, Connecticut and New York The Hon George Gordon Battle has accepted the national chairmanship of this movement, the object of which is to provide units of the Physicians' Home in various parts of the country Boxes and reserve seats for the benefit performance of the Metropolitan Opera Company, April 11 can be had by letter, telephone or telegraph to the Physicians' Home, Inc, 22nd floor, Times Building, Broadway and 42nd Street, New York

NORTH CAROLINA

Tri-State Meeting—The Tri-State Medical Association (the Carolinas and Virginia) held its twenty-eighth annual meeting at Fayetteville, February 16-17, under the presidency of Dr William Lowndes Peple, Richmond, Va , among others, the governors of North and South Carolina gave addresses, Dr Andrew J Crowell, Charlotte, was elected president, Drs Hugh R Black, Spartanburg, S C, Seavy Highsmith, Fayetteville, N C, and Lawrence T Price, Richmond, Va, vice presidents, and Dr James K Hall, Richmond, Va, secretary-treasurer

New Law Requires Physicians to Work Without Pay.—The North Carolina legislature, in 1925, amended the law providing for the physical examination of applicants for marriage licenses, so that it now requires physicians to examine these applicants and issue them certificates without charge The amendment is in part as follows

> 'That such certificate shall be executed by some reputable physician licensed to practice medicine and surgery in the State of North Carolina, whose duty it shall be to examine such applicants and issue such certificate without charge *Provided, however,* that no such certificate shall be valid outside of the county in which such physician resides unless the same shall be accompanied by a certificate of the clerk of the Superior Court of the county in which such physician resides to the effect that the person who signed such certificate is a reputable physician and surgeon actually engaged in the practice of his profession '

This amendment is said to have been introduced by N A Townsend of Dunn, and passed just previous to the close of the session

NORTH DAKOTA

Dr Carlson to Lecture.—Dr Anton J Carlson, professor and chairman of the department of physiology, University of Chicago, will deliver three lectures, March 18, at Grand Forks, on (1) "Science and the Common Life" at the University of North Dakota, (2) "Recent Studies on the Gastro-Intestinal Tract" before Sigma Xi, and (3) "Organotherapy" at a dinner given by the Grand Forks District Medical Society

OHIO

Personal — Dr Royal A Phillips, Cincinnati, has been granted a fellowship for training in extramural psychiatry by the National Committee for Mental Hygiene, Dr Phillips is on the staff of the neurologic department of the Cincinnati General Hospital——Dr James J Chandler has resigned as resident medical superintendent of Mount Logan Sanatorium, Chillicothe——Dr Walter J Weiser has been reappointed health commissioner of Marion——Dr Oral D Tatje has been reappointed health commissioner of Portsmouth, and Dr Treber C Crawford, city physician

Health Exhibit a Success. — The medical exhibition conducted at the University of Cincinnati in February had a total attendance of 28,988 persons There were on exhibition the equipment of modern operating rooms, a demonstration of heliotherapy and of the requirements demanded of medical students during their course of study A motion picture, 'Pilgrim's Progress of a Medical Student" made for this occasion, showed the student's life from matriculation to graduation and was a popular feature Each department of the university provided demonstrations and lectures There were also lectures daily on "Health Promotion" illustrated by moving pictures The mayor of Cincinnati and the president of the university presided at the opening, and representatives from about fifteen medical colleges and many from other cities attended This, said to be the first exhibition of its kind, was far more successful than was expected by the Public Health Federation, which originated the plans

OREGON

Society News—Dr Louis J Wolf, Portland, addressed the Portland City and County Medical Society, recently, on 'Obstetrics Among the Eskimos'——At a meeting, recently, the Teton County Medical Society was organized, Dr Harry J McGregor, Choteau, was elected president, and Dr. George E Keller, Choteau, secretary-treasurer, meetings will be held the last Friday in each month

PENNSYLVANIA

The Mellon Lecture—Dr. George N. Stewart, professor of experimental medicine, Western Reserve University School of Medicine, Cleveland, will deliver the Mellon Lecture of the Biological Society at the Carnegie Institute, Pittsburgh, April 30, 8 15 p m, on "Studies on the Adrenal Glands"

Personal. — Dr Charles L Fullmer has been appointed county medical director of Clinton County by the state secretary of health to succeed the late Dr Robert B Watson, Lock Haven——Dr Ralph L Reber has been elected president of the Reading Medical Society, Reading——Dr James D Lewis has been made director of public health of Scranton for 1926——Dr Frank B Witmer has been elected health officer of Lebanon——Dr. Albert S Reiter has been elected burgess of the borough of Myerstown

Diploma and License Stolen—The state board of medical education and licensure, Harrisburg, reports that the medical diploma and license to practice medicine in Pennsylvania, and the narcotic license of Dr Warren C Mercer, 20 South Twenty-First Street, Philadelphia, were stolen from his office several months ago State boards may be able to locate these credentials, as an attempt may be made to use them fraudulently Dr Mercer graduated from Hahnemann Medical College and Hospital of Philadelphia, in 1899, and was licensed in the state the same year.

Philadelphia

Society News—Dr David L Belding, Boston, addressed the Obstetrical Society of Philadelphia, March 4, at the College of Physicians on "The Effect of Treatment of Syphilitic Pregnant Women Upon the Incidence of Congenital Syphilis"——Dr Jacob Braun, New York, addressed the Philadelphia Laryngological Society, March 2, on "The Surgical Aspects of Tonsillectomy and Its Complications," illustrated with moving pictures, Dr Samuel R Skillern, Jr, spoke on "The Anatomy of the Tonsils"

SOUTH CAROLINA

Health Officer Appointed—Dr Francis M Munson, New Orleans, has taken up the duties of health officer of Sioux Falls Dr Munson is a graduate of the Medico-Chirurgical College, Philadelphia, and of the navy medical school, Washington, D C, he was in the navy medical corps for about thirteen years, including the period of the World War, was on the faculty of the School of Medicine of Georgetown University, Washington, D C, for several years and later was health unit director for the Louisiana State Board of Health

TENNESSEE

Appeal for Funds for Meharry Medical College—Meharry Medical College, Nashville, is now a Class A medical school, the only one in the southern section of the United States where negroes can obtain a medical education The school has a great work to do in the training of physicians to serve 10 000,000 negroes, but it is handicapped by a lack of funds Next October, when the college celebrates its fiftieth anniversary, an appeal for contributions to an endowment fund will be made to its alumni and to the negro race The president of Meharry Medical College, Dr John J Mullowney, believes that many other members of the medical profession will be willing to help this institution, he will gladly give information concerning the work of the college, and, with many others, will appreciate contributions to the endowment fund Checks may be forwarded to the treasurer of the college, Mr George W Claridge, Nashville, Tenn

CANADA

Personal—Dr Eric K Clarke, Toronto, has been granted a fellowship for training in extramural psychiatry by the National Committee for Mental Hygiene, Dr Clarke is director of the psychiatric clinic of the Toronto General Hospital

Society News—Dr James Tate Mason, Seattle, addressed the Vancouver Medical Association, Vancouver, February 2, on "Surgical Treatment of Thyroid Diseases," and in the morning held a clinic at the Vancouver General Hospital Dr Lester J Palmer, Seattle, gave an address on "Some Phases of the Diabetic Situation"

The Osler Lecture—Dr Edwin D Carder delivered the Osler Lecture for 1926 before the Vancouver Medical Association, March 2, on "The Thymus", an informal dinner at the University Club, Vancouver, preceded the meeting, Drs Henry E Young and Cyril Wace of Victoria were guests of the association The annual meeting will be held, April 20

GENERAL

Committee of International Stomatological Congress.—The American Committee of the International Stomatological Association for the next international congress in Paris in 1927 comprises, among others, Dr. Edward C. Rosenow, scientific research; Dr. Joseph C. Bloodgood, Baltimore, clinical stomatology; Dr. Oliver T. Osborne, Hartford, Conn., education and legislation; Dr. William G. Shemeley, Jr., public health and lay education; Dr. George W. MacKenzie, history of stomatology, and Dr. Anthony Bassler, bibliography and nomenclature. Dr. George Reese Satterlee is treasurer of the committee, and Alfred J. Asgis, D.D.S., chairman.

Biennial Convention of Nurses.—The three national nursing organizations, American Nurses' Association, the National League of Nursing Education and the National Organization for Public Health Nursing, will hold their biennial convention at Atlantic City, May 17-22, during which week the American Health Congress, comprising thirteen other health organizations, will be held. Some subjects for discussion will be "Legislation and the Profession," "The Nursing of People Who Are Mentally Ill," "Milestones in Nursing," "The Normal Preschool Child," "Trends in Public Health Nursing Education," and "What the Nurse Can Give to Industry." This is expected to be the largest gathering of professional women ever held in this country. There are said to be about 200,000 nurses in the United States, and about 1,700 nursing schools.

Last Year's Smallpox.—The American Association for Medical Progress, New York, has compiled from *Public Health Reports* the number of cases of smallpox during 1925. There were, it appears, 33,200 cases in thirty-eight states and the District of Columbia for which figures were available; this denotes a decline of about 10,000 in the number of cases over the preceding year. In fourteen states, however, there was an actual increase of 5,400 cases over the preceding year, and in Alabama alone an increase from 2,042 to 4,275. In eight states and the District of Columbia only one case was reported during the last four months of 1925. California led all these states in the aggregate number of cases, as it did in 1924; California also showed the best absolute report in the number of cases, the reduction being from 9,425 cases to 4,919. Vermont did not report a single case of smallpox in 1925, and only sixty-four in 1924.

Societies Merge.—At the annual meeting, Detroit, February 26, the American Congress on Internal Medicine announced that it had merged with the American College of Physicians in a body to be known as the Clinical Congress of the American College of Physicians, which will have the same function as the former congress. Members of the Congress on Internal Medicine will automatically become associates of the American College of Physicians, in which there will be, henceforth, three classes of members, masters, fellows and associates; a fourth class of membership in the college to be known as "associates" was created for younger physicians, who, after a five year training period, will be given an opportunity to qualify as fellows. Dr. Alfred Stengel, Philadelphia, was elected president of the American College of Physicians; Dr. Frank Smithies, Chicago, president-elect; Drs. Aldred S. Warthin, Ann Arbor, Charles F. Martin, Montreal, and Stewart R. Roberts, Atlanta, Ga., vice presidents. One hundred and twenty-five new fellows were inducted into the college.

Stream Pollution by Industrial Wastes.—More than 9,000,000 tons of sulphuric acid is dumped annually into the streams of Pennsylvania; its source is in waste mine waters. Among more than 300 mines in the state only four, according to a report by the department of commerce, showed water which was not acid. Ohio and West Virginia are seriously affected in this way, also. There are, the report states, 250 water supplies throughout the United States and Canada that are affected by industrial wastes, and Pennsylvania alone has 138 water supplies affected. There are no fish in the Monongahela, very few in the Allegheny, and none in the Ohio River until after the Little Kanawha enters at Parkersburg, W. Va. While coal mines are a great source of acid waste, large quantities of acid are discharged from such industries as tube, sheet, tin-plate and enameling works. Few attempts have been made to prevent acid waters from entering streams, and the making of regulations to govern such wastes will require a thorough study of the subject. The neutralization of acid mine waters will require the expenditure of great sums of money, but the report considers that it does not seem prohibitive in most cases; whether this will be a sound policy will depend on the collection of more data than are available now.

Report of Committee on Supernormal Phenomena.—The committee appointed by the *Journal of Abnormal and Social Psychology* to investigate claims of mediums regarding supernormal material phenomena, and to award $5,000 to any person who would demonstrate such phenomena under rigid conditions, has rendered a report. The committee comprised Dr. Simeon Burt Wolbach, Harvard University, secretary; Dr. Walter B. Cannon, Harvard University Medical School; Harlow Shapley; Theodore Lyman; C. C. Pratt, and Harry Houdini. They state that forty-four persons responded to the announcement of the prize, but that only three persons made pretense of seriously entering the competition. There were fourteen letters from persons obviously psychopathic, seven, probably all from mediums, protesting against the conditions governing the proposed award; four from persons who were rather intimate with ghosts, who disclaimed any desire to compete but wished to tell their experiences; one was from a person in England claiming to be able to convert psychic energy into physical energy; another, from this country, was from the only individual who sent an affidavit from an observer at home; he was the only correspondent that required action by the committee as a whole. The committee finally regarded this person as ineligible. It may be significant, the committee concludes, that no groups of investigators of supernormal phenomena produced a candidate.

New County Society Presidents.—The following physicians have recently been elected presidents of the county medical societies indicated:

Dr. William J. Cranston, Augusta, Ga., Richmond County Medical Society
Dr. Ralph O. Crume, Fort Scott, Kan., Bourbon County Medical Society.
Dr. Erle O. Daniels, Marion, Ind., Grant County Medical Society.
Dr. Wallace N. Davidson, Cushing, Okla., Payne County Medical Association.
Dr. Edgar F. Dodds, Tacoma, Wash., Pierce County Medical Society.
Dr. William P. Greening, Pauls Valley, Okla., Garvin County Medical Society.
Dr. Thomas Y. Greet, Gadsden, Ala., Etowah County Medical Association.
Dr. Joseph A. Guthrie, Huntington, W. Va., Cabell County Medical Society.
Dr. Joseph E. J. Harris, Albuquerque, N. M., Bernalillo County Medical Association.
Dr. James E. Hennessy, Emmetsburg, Iowa, Palo Alto County Medical Society
Dr. Clement V. Hiestand, Campbellsville, Ky., Taylor County Medical Society.
Dr. LeRoy Jones, Hoopeston, Ill., Hoopeston County Medical Society.
Dr. Charles D. Humbert, Barnard, Mo., Nodaway County Medical Society
Dr. Joseph W. Laughlin, Elm Creek, Neb., Buffalo County Medical Society.
Dr. Francis M. Link, Paris, Ill., Edgar County Medical Society.
Dr. William Mason, Stamping Ground, Ky., Scott County Medical Society.
Dr. William J. Maurits, Morrison, Ill., Whiteside County Medical Society.
Dr. Frank P. McCarthy, Erie, Pa., Erie County Medical Society.
Dr. C. H. McCaslin, Stanberry, Mo., Gentry County Medical Association.
Dr. Claudius E. McConnell, Mangham, La., Richland Parish Medical Society.
Dr. W. F. McNary, East St. Louis, Ill., St. Clair County Medical Society.
Dr. Edward R. Michaux, Greensboro, N. C., Guilford County Medical Society.
Dr. William D Mixson, Waycross, Ga., Ware County Medical Society.
Dr. Samuel A. Morrall, Graniteville, S. C., Aiken County Medical Society.
Dr. Edward K. Morris, Merrell, Wis., Lincoln County Medical Society.
Dr. Patrick I. Nixon, San Antonio, Texas, Bexar County Medical Society.
Dr. Charles E. Reddick, Paducah, Ky., McCracken County Medical Society.
Dr. Dalton Richardson, Austin, Texas, Travis County Medical Society.
Dr. Felix C. Rykken, Bellingham, Wash., Whatcom County Medical Society.
Dr. Albanus S. Ryland, Pottsville, Pa., Schuylkill County Medical Society.
Dr. Harvey W. Saylor, Bruning, Neb., Thayer County Medical Society.
Dr. Crandall P. Sisco, Springdale, Ark., Washington County Medical Society.
Dr. Hardy H. Smith, Jr., Fort Smith, Ark., Sebastian County Medical Association.
Dr. Asa H. Speer, Corpus Christi, Texas, Nueces County Medical Association.
Dr. Solomon E. Spratt, Mount Sterling, Ky., Montgomery County Medical Society.
Dr. George T. Tyler, Greenville, S. C., Greenville County Medical Society.
Dr. Samuel C. Waters, Middletown, Ind., Henry County Medical Society.
Dr. Edward H. Weld, Rockford, Ill., Winnebago County Medical Society.
Dr. Robert E. Windham, Longview, Wash., Cowlitz County Medical Society.
Dr. James E. Woelfle, Cairo, Ill., Alexander County Medical Society.
Dr. William K. Wright, Manistique, Mich., Schoolcraft County Medical Society.

PHILIPPINE ISLANDS

Medical Election.—At the annual meeting of the Philippine Islands Medical Association, Manila, Dec. 18, 1925, Dr. Carmelo M. Reyes was elected president, Drs. Arturo Garcia and Gregorio Singian, vice presidents, and Dr. Isabelo Concepcion, secretary-treasurer. The next annual meeting will be in Manila, Dec. 14-17, 1926.

CUBA

Typhoid Outbreak.—One hundred and thirty cases of typhoid and twelve deaths have been reported at Colon, not far from Havana. Compulsory antityphoid vaccination has been enforced, and soldiers are on guard to prevent uninoculated persons from entering or leaving Colon.

Repair of Children's Asylums.—Director Pine, of the section of philanthropy of the sanitation department, has announced that the $10,000 at the disposal of the maternity and child welfare protection committee will be applied to the repair of the Habana-Nueva-Creche and other benefit asylums for children in Habana. Director Pine is drawing up plans for improving crèches run by private charity which would provide them with a $15 subvention for each child cared for.

PORTO RICO

Tuberculosis Dispensaries.—The bureau of tuberculosis of the department of health, Porto Rico, has recently opened two tuberculosis dispensaries, one at Coamo and the other at Yauco; there are now eleven tuberculosis dispensaries operating in Porto Rico.

New Municipal Hospitals.—During the last two years, twelve new municipal hospitals have been constructed in various towns in Porto Rico to replace old and inadequate structures. The most recent new municipal hospital to be inaugurated is one at Aguadilla, which is modern in every way, and equipped to meet the accepted hospital standards.

Child Welfare Board.—The last session of the legislature of Porto Rico passed a law creating a child welfare board, which shall consist of five members, two of whom shall be mothers of families, to be appointed by the governor of Porto Rico with the consent of the senate, for a term of two years. The commissioners of health and education shall be ex officio members of the board, but shall have only a voice in its deliberations. The board shall have charge of the study of all problems affecting childhood; it will revise all present laws affecting childhood, inspect all institutions now or hereafter to be established to benefit the children of Porto Rico, and shall report to the legislature concerning the operations of such institutions every two years. At the first meeting of the board, recently, Dr. Antonio Fernós Isern was elected president.

FOREIGN

Typhoid in Tokyo.—From January 1 to January 11 there were 199 cases of typhoid in Tokyo, which was sixty-nine more than in the corresponding period last year.

Cholera in Japan.—The total number of cases of cholera in Japan in 1925 was 640; they were scattered over more than half of the provinces and the death rate was about 60 per cent; during the year, 221 cholera carriers were discovered.

Fund for Medical School.—The Rockefeller Foundation, New York, has granted 3,000,000 francs to the faculty of medicine of Strasbourg to build an institute of histology and an otolaryngologic clinic and to subsidize research workers.

Cults in Asia Minor.—The *Deutsche medizinische Wochenschrift* publishes a notice from Angora to the effect that the Turkish government has prohibited all kinds of medical cults from practicing the healing arts. The local authorities are enjoined to arrest the cultist at once if he attempts healing by prayer and to take him to the workhouse.

Measles in Palestine.—Measles is the most serious epidemic disease occurring in Palestine, according to the health section of the League of Nations. There were 6,936 cases reported in the 1924 epidemic, 1,232 of which were fatal. The 1923 measles outbreak coincided with a severe epidemic in Egypt. Scarlet fever is of rare occurrence in Palestine as well as in Egypt; so is diphtheria. Smallpox is well under control, but the incidence of chickenpox is increasing.

The Plague Situation.—The plague situation in Asiatic ports remained favorable during December, 1925; in only seven of the thirty-nine ports from which reports were received by the health section of the League of Nations did plague occur and, in them, not more than three cases in any port during any week; human plague was reported in only two of the thirty-one ports outside Asia from which reports were received. While 4,794 cases were reported in British India with 3,259 deaths for the four weeks ending November 14, that was less than half the number of cases reported during the corresponding period in 1924. It is said that the present plague year ending next June will probably be among the most favorable in the history of the present pandemic in India. There was little plague in the Mediterranean area also during December, and no case in Egypt in the last four weeks of 1925. Port Said had been free from plague since November 8 and Suez since October 2. There were 138 cases in all in Egypt during 1925, which is the lowest annual figure since the disease was introduced in that country with the exception of 1899 and 1900.

Government Services

U. S. Public Health Service

Surg. David Columbus Turnipseed, Jr., and Acting Asst. Surg. James S. Wheeler have been relieved from duty at Quarantine, La., and directed to proceed to New Orleans to establish headquarters for the conduct of quarantine activities of the port of New Orleans.——Senior Sanitary Engineer J. A. LePrince was authorized to proceed from Memphis, Tenn., to Chicago, January 4, concerning an antimosquito campaign to be carried on around Chicago next spring.——Surg. Charles Armstrong has been directed to proceed from time to time during the present fiscal year from Washington, D. C., to such places in the United States as may be necessary to investigate complications associated with vaccination against smallpox.——Asst. Surg. Adolph S. Rumreich has been relieved from duty at Los Angeles, and assigned to duty at Rolla, Mo., in connection with the epidemiologic study of trachoma.——Surg. John McMullen was directed, January 25, to proceed from New Orleans to Jacksonville, Fla., and return to confer with the state health officer about an outbreak of smallpox in Florida.——Surg. Joseph Goldberger was directed, January 26, to proceed from Washington, D. C., to Milledgeville, Ga., and return in connection with pellagra investigations.——Surg. George W. McCoy was detailed as a representative of the public health service at the annual meeting on Medical Education, Medical Licensure and Hospitals of the American Medical Association, Chicago, February 15-18.——Dr. Jesse T. Harper, Dr. Felix R. Brunot and Dr. John W. Harned, Jr., have been commissioned in the grade of assistant surgeon, effective on the date of oath.

Loss of Pay for Absence from Duty

The Senate Committee on Military Affairs has approved and favorably reported to the Senate a bill for the forfeiture of pay of persons in the military and naval service who are absent from duty on account of the direct effects of the intemperate use of alcoholic liquor or habit-forming drugs or because of venereal disease. The bill amends existing laws on this subject in certain particulars, which are described in detail in a letter of Secretary of War Dwight F. Davis, to the Chairman of the Senate Committee on Military Affairs.

Army Orders

According to the New York *Times*, orders have been issued transferring Major Milton W. Hall, Medical Corps, from the Philippines to Fort Bliss, Texas; Major Albro L. Parsons to sail for Manila about March 12; Capt. Charles F. Shook to sail for Honolulu about April 27; Capt. Verner T. Scott from the Hawaiian Department to the Army Medical School, Washington, D. C.; Capt. Victor N. Meddis to sail from New York about March 12 for China. Major John W. Watts has been detailed to Chicago for recruiting duty; Capt. Everett Le C. Cook to the Army Medical School, Washington, D. C.; Capt. Carl R. Mitchell to Fort Bragg, N. C., and Capt. James C. Kimbrough and Lieuts. Douglas S. Kellogg and Berna T. Bowers to the Letterman General Hospital, San Francisco; Major Lucius L. Hopwood has been ordered to the New York General Intermediate Depot for duty.

THE DALLAS SESSION

AMERICAN MEDICAL ASSOCIATION, SEVENTY-SEVENTH ANNUAL SESSION
DALLAS, APRIL 19-23, 1926

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The seventy-seventh annual session of the American Medical Association will be held in Dallas, April 19-23, 1926.

The House of Delegates will convene at 10 a. m., Monday, April 19. In the House the representation of the various constituent associations for 1926, 1927 and 1928 is as follows:

Alabama	3	New Hampshire	1
Arizona	1	New Jersey	3
Arkansas	2	New Mexico	1
California	5	New York	14
Colorado	2	North Carolina	3
Connecticut	2	North Dakota	1
Delaware	1	Ohio	7
District of Columbia	1	Oklahoma	3
Florida	1	Oregon	1
Georgia	3	Pennsylvania	10
Idaho	1	Rhode Island	1
Illinois	10	South Carolina	2
Indiana	4	South Dakota	1
Iowa	4	Tennessee	3
Kansas	3	Texas	6
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	2	Virginia	3
Maryland	2	Washington	2
Massachusetts	6	West Virginia	2
Michigan	5	Wisconsin	3
Minnesota	3	Wyoming	1
Mississippi	2	Alaska	1
Missouri	5	Canal Zone	1
Montana	1	Hawaii	1
Nebraska	2	Philippine Islands	1
Nevada	1	Porto Rico	1

The fifteen scientific sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting to be held at 8:30 p. m., Tuesday, April 20. The sections will meet Wednesday, Thursday and Friday, April 21, 22 and 23, as follows:

CONVENING AT 9 A. M., THE SECTIONS ON

Surgery, General and Abdominal.
Ophthalmology.
Diseases of Children.
Pharmacology and Therapeutics.
Nervous and Mental Diseases.
Dermatology and Syphilology.
Gastro-Enterology and Proctology.
Radiology.

CONVENING AT 2 P. M., THE SECTIONS ON

Practice of Medicine.
Obstetrics, Gynecology and Abdominal Surgery.
Laryngology, Otology and Rhinology.
Pathology and Physiology.
Urology.
Orthopedic Surgery.
Preventive and Industrial Medicine and Public Health.

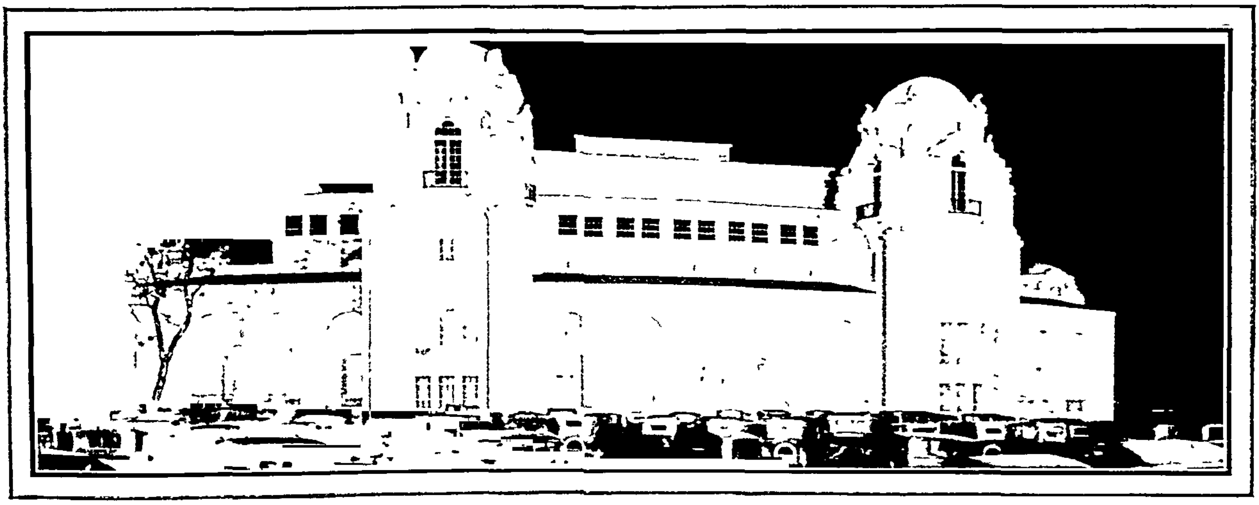
The Registration Department will be open from 8:30 a. m. until 5:30 p. m., Monday, Tuesday, Wednesday and Thursday, April 19, 20, 21 and 22, and from 8:30 a. m. to 12 noon, Friday, April 23.

WILLIAM D. HAGGARD, President.
FREDERICK C. WARNSHUIS, Speaker, House of Delegates.
OLIN WEST, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be



THE FAIR PARK AUDITORIUM
Here the sections on Practice of Medicine and Diseases of Children will meet.

elected. The following is a list of the holdover delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA
A. A. Walker, Birmingham.
W. M. Cunningham, Corona.
S. W. Welch, Montgomery.

ARIZONA

ARKANSAS
William Turner Wootton, Hot Springs National Park
William R. Bathurst, Little Rock

CALIFORNIA
Hans Lisser, San Francisco
Victor G. Vecki, San Francisco.
Albert Soiland, Los Angeles
Robert V. Day, Los Angeles
Lemuel P. Adams, Oakland

COLORADO
C. N. Meader, Denver
L. H. McKinnie, Colorado Sp'gs.

CONNECTICUT
Walter Ralph Steiner, Hartford.

DELAWARE
W. O. La Motte, Wilmington.

DISTRICT OF COLUMBIA
W. Gerry Morgan, Washington.

FLORIDA
H. Marshall Taylor, Jacksonville.

GEORIGIA
Allen H. Bunce, Atlanta
Cleveland Thompson, Millen.

IDAHO
George R. Proctor, Nampa.

ILLINOIS
E. P. Sloan, Bloomington.
T. O. Freeman, Mattoon.
C. J. Whalen, Chicago.
Emmet Keating, Chicago
R. W. McInnes, Belvidere.
E. W. Fiegenbaum, Edwardsville
J. W. Van Derslice, Oak Park.
Charles E. Humiston, Chicago.
H. M. Camp, Monmouth.
William Allen Pusey, Chicago.

INDIANA
J. Rilus Eastman, Indianapolis.
David Ross, Indianapolis
George F. Keiper, La Fayette.
A. E. Bulson, Jr., Fort Wayne.

IOWA
Donald Macrae, Jr., Council Bluffs.
Bert L. Eiker, Leon.
M. N. Voldeng, Woodward.
William Jepson, Sioux City.

KANSAS
E. D. Ebright, Wichita.
Alfred O'Donnell, Ellsworth.
F. A. Carmichael, Osawatomie.

KENTUCKY
*F. A. Stine, Newport
A. T. McCormack, Louisville.
H. A. Davidson, Louisville.

LOUISIANA
W. H. Seemann, New Orleans.
S. M. Blackshear, New Orleans.

MAINE
Bertram L. Bryant, Bangor.

MARYLAND
Thomas S. Cullen, Baltimore.
Charles O'Donovan, Baltimore.

MASSACHUSETTS
H. G. Stetson, Greenfield
C. E. Mongan, Somerville.
J. F. Burnham, Lawrence.
F. B. Lund, Boston.
E. F. Cody, New Bedford.
R. I. Lee, Boston

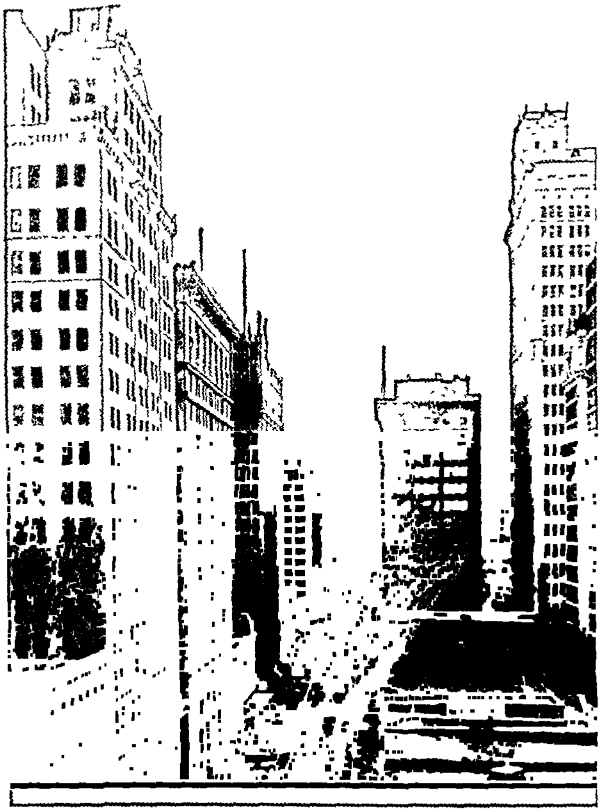
MICHIGAN
A. W. Hornbogen, Marquette.
J. D. Brook, Grandville.
George E. Frothingham, Detroit.
F. C. Warnshuis, Grand Rapids.
Carl F. Moll, Flint.

MINNESOTA
J. L. Rothrock, St. Paul.
T. L. Chapman, Duluth.
J. C. Litzenberg, Minneapolis.

MISSISSIPPI
Henry Boswell, Sanatorium.
S. W. Johnston, Vicksburg.

MISSOURI
G. Wilse Robinson, Kansas City.
W. J. Ferguson, Sedalia.
E. J. Goodwin, St. Louis.
J. C. Lyter, St. Louis
F. M. McCallum, Kansas City.

MONTANA
Creswell T. Pigot, Roundup.



THE CANYON OF DALLAS

NEBRASKA
R. W. Fouts, Omaha.
A. D. Dunn, Omaha.

NEVADA
C. E. Piersall, Reno.

NEW HAMPSHIRE
D. E. Sullivan, Concord.

NEW JERSEY
Wells P. Eagleton, Newark.
John F. Hagerty, Newark.
Henry B. Costill, Trenton.

NEW MEXICO
H. A. Miller, Clovis.

NEW YORK
Owen E. Jones, Rochester.
Arthur W. Booth, Elmira.
*Grover W. Wende, Buffalo.
Grant C. Madill, Ogdensburg.
William F. Campbell, Brooklyn.

NORTH CAROLINA
W. S. Rankin, Raleigh.
M. L. Stevens, Asheville.
W. D. James, Hamlet.

NORTH DAKOTA
E. A. Pray, Valley City.

OHIO
Wells Teachnor, Sr., Columbus.
Ben R. McClellan, Xenia.
George E. Follansbee, Cleveland.
John P. DeWitt, Canton.
W. D. Haines, Cincinnati.
H. M. Hazelton, Lancaster.
E. R. Brush, Zanesville.

OKLAHOMA
W. Albert Cook, Tulsa.
McLain Rogers, Clinton.
C. A. Thompson, Muskogee.

OREGON
William Kuykendall, Eugene.

PENNSYLVANIA
W. F. Donaldson, Pittsburgh
J. Norman Henry, Philadelphia.
Samuel P. Mengal, Wilkes-Barre.
Charles C. Cracraft, Claysville.
J. N. Hunsberger, Norristown.
William H. Mayer, Pittsburgh.
John A. Campbell, Williamsport.
Arthur E. Crow, Uniontown.
John H. Murray, Punxsutawney.
Orlando H. Petty, Philadelphia.

RHODE ISLAND
Roland Hammond, Providence.

SOUTH CAROLINA
E. A. Hines, Seneca.

SOUTH DAKOTA
G. G. Cottam, Sioux Falls.

TENNESSEE
Jere L. Crook, Jackson.
J. A. Witherspoon, Nashville.
H. L. Fancher, Chattanooga.

TEXAS
J. W. Burns, Cuero.
A. C. Scott, Temple.
Holman Taylor, Fort Worth.

UTAH
E. M. Neher, Salt Lake City.

VERMONT
W. G. Ricker, St. Johnsbury.

VIRGINIA
S. S. Gale, Roanoke.
Hunter H. McGuire, Winchester.
Southgate Leigh, Norfolk.

WASHINGTON
D. E. McGillivray, Port Angeles
Frederick Epplen, Spokane.

WEST VIRGINIA
J. R. Bloss, Huntington.
H. P. Linsz, Wheeling.

WISCONSIN
Rock Sleyster, Wauwatosa.
H. M. Brown, Milwaukee.
Joseph F. Smith, Wausau.

WYOMING
George P. Johnston, Cheyenne.

ALASKA

HAWAII
F. J. Pinkerton, Honolulu.

ISTHMIAN CANAL ZONE

PHILIPPINE ISLANDS

PORTO RICO
Jorge del Toro, Santurce.

GOVERNMENT SERVICES
United States Army, R. F. Metcalfe.

United States Public Health Service, W. F. Draper.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE
Henry A. Christian, Boston.

SURGERY, GENERAL AND ABDOMINAL
Dean Lewis, Baltimore.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY
John O. Polak, Brooklyn.

OPHTHALMOLOGY
W. H. Wilder, Chicago.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
Burt R. Shurly, Detroit.

DISEASES OF CHILDREN
I. A. Abt, Chicago.

PHARMACOLOGY AND THERAPEUTICS
Paul D. White, Boston.

PATHOLOGY AND PHYSIOLOGY
D. J. Davis, Chicago.

NERVOUS AND MENTAL DISEASES
T. B. Throckmorton, Des Moines.

DERMATOLOGY AND SYPHILOLOGY
Howard Fox, New York.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
W. S. Leathers, Nashville.

UROLOGY
A. L. Chute, Boston.

ORTHOPEDIC SURGERY
H. W. Orr, Lincoln, Neb.

GASTRO-ENTEROLOGY AND PROCTOLOGY
E. H. Terrell, Richmond, Va.

RADIOLOGY

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* Deceased.

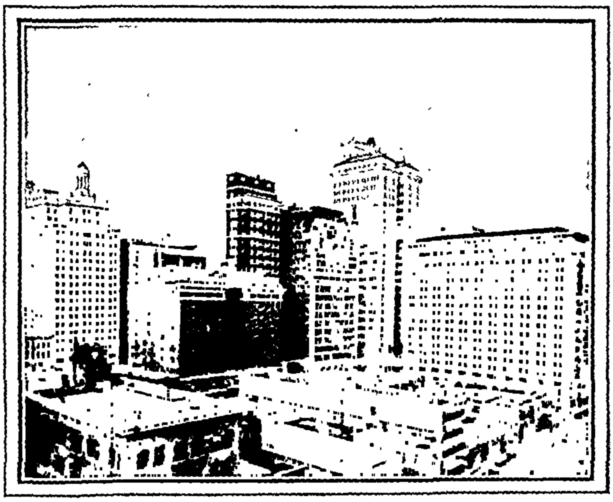
SO THIS IS DALLAS!

Things That Ought to Be Known About the Convention City

About the middle of the sixteenth century a small group of adventurous Spaniards, under Cortez, conquered the empire of Mexico. Until about a hundred and fifty years later what is now known as Texas had neither name nor established borders. After name and borders had been given her, Texas endured the yoke of Spain for another century. In 1822 the first settlers from the United States came to Texas and fourteen years later, on the bloody San Jacinto battleground, the Lone Star State was born.

One day in November, seven years after the events recorded, John Neely Bryan, a hardy young Tennesseean, camped one night on the banks of the Trinity River and in the neighborhood of the present city of Dallas. What consideration caused him to pick this particular spot can, of course, only be guessed. It is interesting to wonder, though, whether the destiny of a great city depended that November day on a whim of chance or on some deep foresight, which perhaps subconsciously stayed the young pioneer in his journey. The settlement was named after George Mifflin Dallas, vice president of the United States under the Polk administration. Whatever the cause may have been, the spirit of John Neely Bryan and those that followed him has survived and flourished. The fellowship of those early pioneers has been perpetuated in the famous Dallas spirit of hearty welcome and warm hospitality.

The outside world thinks of Dallas as a commercial center. True, the growth of the city has been an answer to the commercial needs of the territory which it serves; but Dallas is a well rounded city, and as there is romance in the rise of every successful business man, so is there the fire of accomplishment in the progress of the key city of an inland empire.



A DALLAS SKYLINE

SPEAKING OF TEXAS

Before being told about Dallas, one should know something of the state called Texas, whose name is linked with all that is gigantic. Gigantic in size, wealth and productivity, it feeds, clothes and makes rich a constantly growing population. Speaking of its size, Pat M. Neff, ex-governor of the state, said on one occasion:

"Come to Texas and we will show you the largest cow and horse ranch in the world. It takes 400 miles of fence to enclose it, and when a neighboring Romeo desires to call on the Juliet of that cow ranch, he enters the front gate and rides 10 miles before he can sing his amorous ode beneath the window of the cow-ranch home. And when the ice man comes he drives through the back-yard gate and then journeys 30 miles before he reaches the kitchen cooler. Come to Texas and we will take you to San Angelo, the largest local wool market in the world, and show you a sheep ranch larger than Rhode Island; we will take you to Laredo, where during one season, and they have four a year in Texas, 1,500 carloads of onions were shipped. Last year Texas raised enough onions to flavor the salads and perfume the breath of the human race. When these Bermuda beauties of the Rio Grande made their debut in the horticultural society of this country, the mild-eyed Irish potato shed tears, the beet crop hid its blushing face, and the cabbage fields bowed their heads in envy of this sweet-scented, golden slippered Cinderella of the Southwest. Everything in Texas is rich and productive. Our horses wear checks on their heads, our chickens have bills, our chimneys have drafts and, without considering our politicians, every man who has energy enough to push a lawn mower gets a rake-off. We shipped last year a carload of hens to Chicago, and they laid enough eggs on the road to pay the freight. We have lumber enough to house the homeless, and farm products enough to feed the hungry of the human race."

THE BUSINESS OF DALLAS

Now the chances are that the Romeo mentioned ordered his guitar from a Dallas music house, while Juliet, all dressed up in her Sunday best, is following the dictates of Dallas style creations. From the tools to cultivate the onion crop to the liquid for that "insidious thing," Dallas helps supply the needs of the eleven million people who call the Southwest their home.

It is no wonder, then, that Dallas, with such a wide and prolific trade territory, should have a wholesale district with more than 500 concerns, an industrial section containing 700 factories, and be able to call itself the leading manufacturing city of Texas and the fifteenth jobbing market in the United States. Dallas makes nearly half of the cotton gins of the world and also leads in saddlery, harness and leather goods. Governor Neff, when speaking of cow ranches, was not referring to the section of the state in which Dallas is located. This city is in the midst of one of the richest agricultural sections of the world, and more than two million people live within a hundred mile radius of this city. Its own population is approximately 250,000.

The business streets of Dallas are lined with towering skyscrapers, which have gained for this city the title of possessing the second most impressive skyline in America. In Dallas' canyon-like streets there flows a traffic as heavy as the loop district in Chicago or Fifth Avenue in New York.

AMUSEMENTS ARE PLENTY

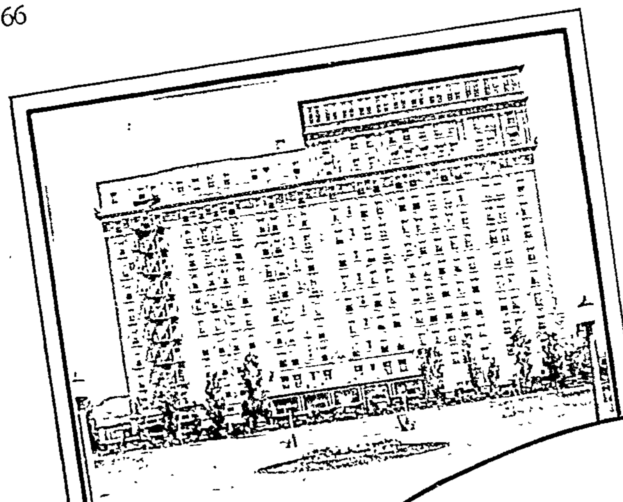
Although the waves of a rising tide of commerce have swept prosperity toward Dallas, its people have not forgotten that the hours of rest should be as well provided for as the hours of work.

There are so many good theaters in Dallas that the visitor can always find a play or a picture show to suit him and make his evenings pleasant.

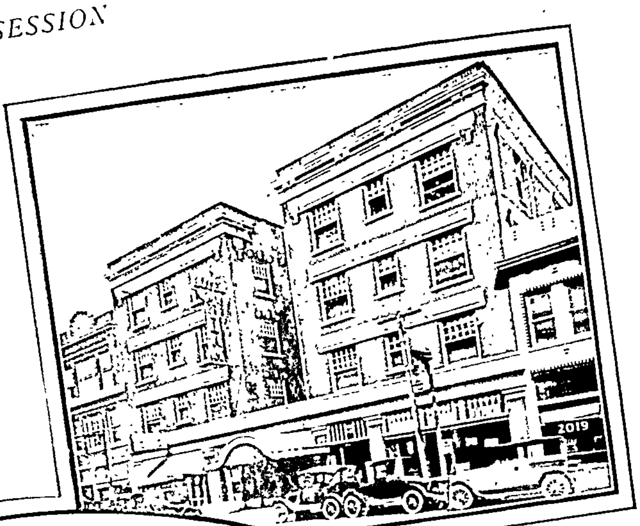
In every section of the city there are fine parks equipped with playground apparatus for the young, and tennis courts and swimming pools for the grown-ups. There is no section that is not served by a park within easy walking distance. Among those most worthy of mention are Ferris Plaza, just in front of the Union Station, where at night the incoming visitor is welcomed by the myriad-colored rays of an electrically illuminated fountain, and Marsalis Park, with its zoo, which ranks as the largest and best in a city the size of Dallas, and contains many unevoluted specimens. White Rock, a six billion gallon water reservoir, is shortly to be turned into a pleasure resort, where even now the followers of Isaac Walton may test their skill to the utmost. There are municipal and private bathing pools, a baseball team, two libraries, and thirty-six motion picture houses.

Almost 300 miles of paved streets wind through the beautiful park system and splendid residential sections of this city. The county in which Dallas is located has more than a thousand miles of surfaced highways, making motoring a thing of unalloyed pleasure.

THE DALLAS SESSION



The Jefferson

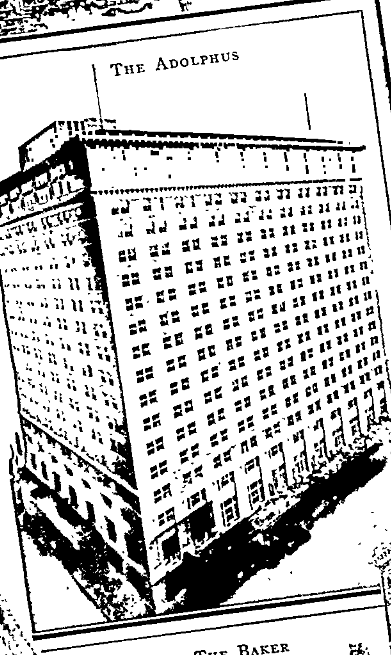


The Milam

The Adolphus

The Scott

The Hilton

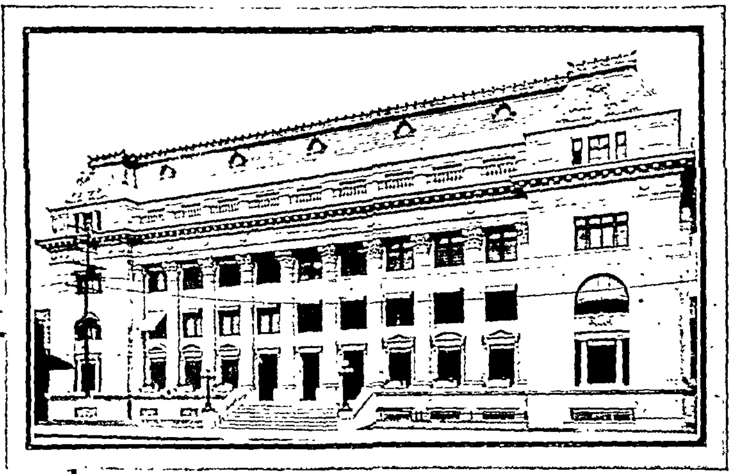


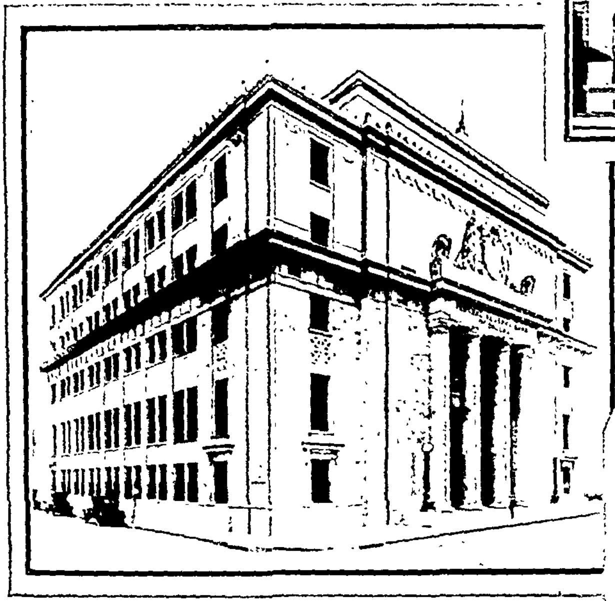
The Baker

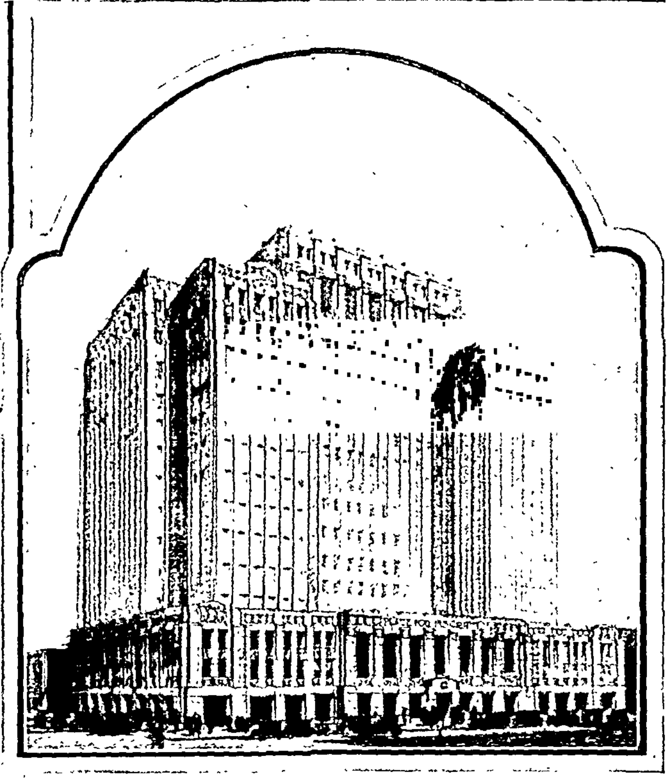
The Park

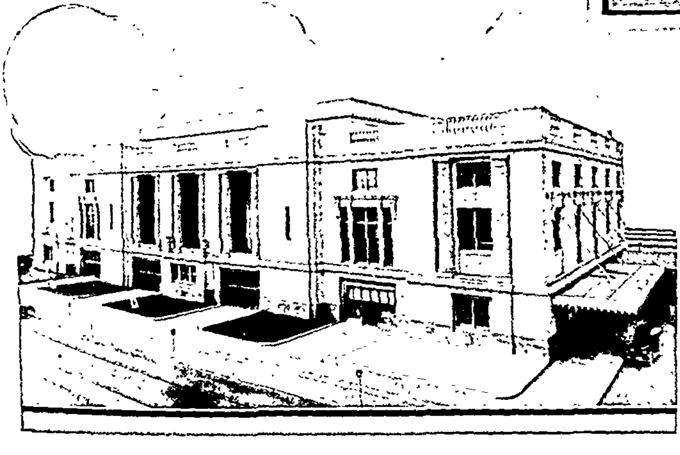
The Southland

SOME DALLAS HOTELS







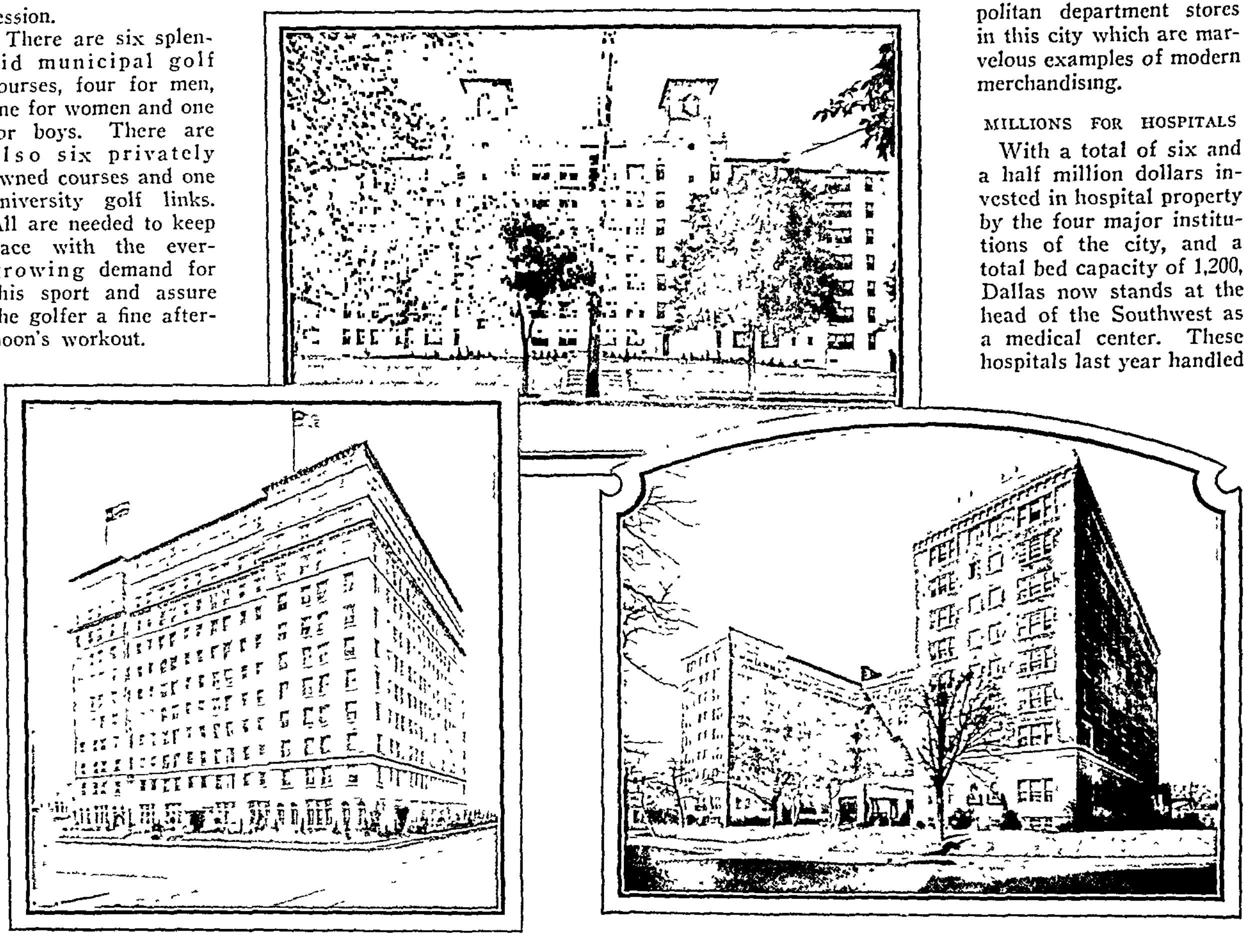


SOME DALLAS BUILDINGS

A GOLF BUG'S PARADISE

Five years ago, Dallas had only three golf courses. It now boasts a total of sixteen, with 216 holes. There are five country clubs, each with an eighteen hole golf course. Two of these clubs, the Dallas and Lakewood country clubs, were originally in the country, but the expansion of the city has caught up with them and they can now be better termed city golf clubs. The city has not yet reached Cedar Crest, Brookhollow and Glen Haven. Large sums have been expended to perfect these courses, and they daily give surcease to the worries of an increasingly large number of business men. All the courses of Dallas will be open to those who attend the annual session.

There are six splendid municipal golf courses, four for men, one for women and one for boys. There are also six privately owned courses and one university golf links. All are needed to keep pace with the ever-growing demand for this sport and assure the golfer a fine afternoon's workout.



APARTMENT HOTELS OF THE CONVENTION CITY
Above—Maple Terrace. Lower left—Stanleigh Court. Lower right—Melrose Court.

PLENTY OF ROOMS

With 130 hotels, representing an investment of thirty million dollars, it is doubtful whether any American city of similar size, save resort centers, equals Dallas in hotel facilities. Comfortable rooms await reservation at these hostelries, which are famous for metropolitan service and Southern hospitality. The hotel facilities have been doubled during the last three years, this being made necessary by the growth of the city and its increasing popularity as a tourist and convention center. Dallas hotels have a total guest capacity of nearly 20,000. The city has easily assimilated larger crowds, an example being days during the state fair when the attendance exceeded 200,000. Dallas' eight largest down-town hotels alone have a total of 3,005 rooms. In addition to the skyscraper down-town hostelries, several apartment hotels have recently been completed, which handle a certain amount of transient business.

GOOD EATS

Dallas is well supplied with restaurants, both in connection with hotels and independent of them. They are numerous and of a generally high standard, and some of the highest priced chefs in the nation are here to tempt the epicure. One can get meals with a Western flavor, dishes of old Mexico or older China, or that Southern cooking so dear to the heart of every southerner.

WOMEN LIKE DALLAS

It has been asserted that no city twice the size of Dallas can offer such a complete and attractive retail market. The Orient and the Occident have been combed to supply these shops with goods that catch the eye of women. There is one block in Dallas that sells more shoes at retail than any block of similar length in the United States. There are some half dozen metropolitan department stores in this city which are marvelous examples of modern merchandising.

MILLIONS FOR HOSPITALS

With a total of six and a half million dollars invested in hospital property by the four major institutions of the city, and a total bed capacity of 1,200, Dallas now stands at the head of the Southwest as a medical center. These hospitals last year handled a total of 29,000 exclusive of clinic patients amounting to hundreds of thousands. Many persons coming to Dallas from other cities for medical treatment do not remain in the hospital but prefer to take treatment and spend their time in the local hotels and apartment houses.

While the major hospitals have a large investment in their property, the minor hospitals of a public character also represent an extensive investment of Dallas money, and money from sources interested in the development of hospital facilities here. The city-county hospital system alone, exclusive of Parkland Hospital, is valued at $1,500,000, and in addition to these Dallas has the Masonic Hospital for Children, the Freeman Memorial Clinic, and a number of other institutions having valuable property and equipment. There are 455 physicians and surgeons, 213 registered nurses, 103 practical nurses, 133 dentists and 241 pharmacists in Dallas.

The Dallas County Medical Society is one of the largest county societies in the United States, numbering 360 members. This group is a united body and there exists a harmony of action unusual in so large a group of physicians.

One result of this unity was the erection of the Medical Arts Building, one of the tallest monolithic concrete structures in the world. This building is nineteen stories high and was completed in 1924 at a cost of $1,500,000. It is of Gothic cross design, assuring both light and ventilation to every office. About 60,000 patients visit this building every month.

BAYLOR HOSPITAL AND UNIVERSITY

The largest single institution of healing that Dallas has is the Baylor Hospital, which has property valued at $3,000,000. It has 450 beds, and, in addition to cases in the clinic, cared for 15,000 persons last year who occupied beds. Originally the Baptist Memorial Sanitarium, opened in 1909, it was enlarged in 1922 and the name was changed to Baylor Hospital. One hundred graduate nurses and 165 pupil nurses are employed. The hospital is operated by the Baptist denomination of Texas.

While the main plant of the Baylor University is located at Waco, the Schools of Dentistry, Nursing, Medicine and Pharmacy are in Dallas. The enrolment is in the neighborhood of 1,000.

ST. PAUL SANITARIUM

St. Paul Sanitarium, which has 300 beds, is valued at $1,500,000 and last year treated more than 8,000 persons who occupied beds at the institution. This property includes the major portion of a block, and on the property is located also a large building used as a nurses' training school. The west wing of the structure was the original building; the east wing is of recent construction, including the most modern features of hospital construction, being fireproof throughout. This institution is unusually well adapted to the handling of incoming and outgoing cases. Thousands of clinical cases are handled at this institution annually, and many thousand dollars' worth of charity work is given to sufferers who come to that hospital. Spacious lawns encircle the large building and many shade trees grow about the place, affording the most perfect conditions for convalescent patients during the summer.

DALLAS SANITARIUM

The first 125 bed unit of the Dallas Sanitarium is now nearing completion and will cost $500,000. When the hospital is finally finished it will contain 500 beds, representing an investment of more than $1,250,000. It was established and will be operated by the North Texas Methodist Conference.

PARKLAND HOSPITAL

The Parkland Hospital, of 250 beds, is operated by the City-County Hospital Board. It was established in 1896. Ten graduate nurses and seventy-two nurses in training are employed. It is estimated that the capital investment is in the neighborhood of a million dollars. A nurses' training school is operated in conjunction with the hospital. Plans are being made to enlarge the capacity of the training school to 100.

WOODLAWN SANATORIUM

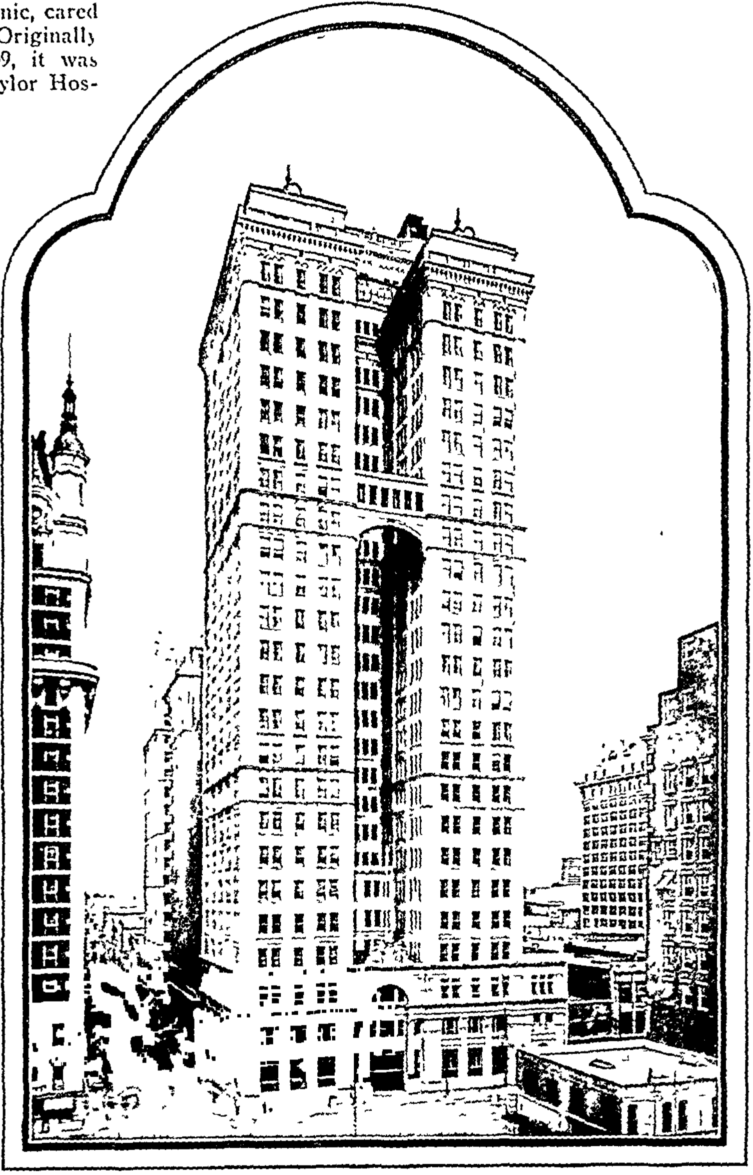
The Woodlawn Sanatorium also is operated by the City-County Hospital Board. It is located on the Record Crossing road and is devoted exclusively to the treatment of tuberculosis. Eight nurses are employed to take care of the patients; the capacity of the hospital is 100 beds. The City-County Hospital Board also operates the Union Hospital and several other minor institutions.

FREEMAN MEMORIAL CLINIC

The Freeman Memorial Clinic was first established in the basement of the First Presbyterian Church, in 1921. In 1924, the clinic was endowed by T. R. Freeman, and a beautiful building erected as a memorial to his wife and son. The clinic is free and handles an ever growing number of patients. The building, together with the equipment, is valued at $100,000, and is owned and operated by the Southern Presbyterian churches of Dallas.

DALLAS BABY CAMP

The Dallas Baby Camp was established in 1913 by the Dallas Graduate Nurses Association. It contains thirty-five beds and five electric incubators. The camp, with an investment of $25,000, derives its support mainly from the community chest. Treatment is given infants under 2 years of age.



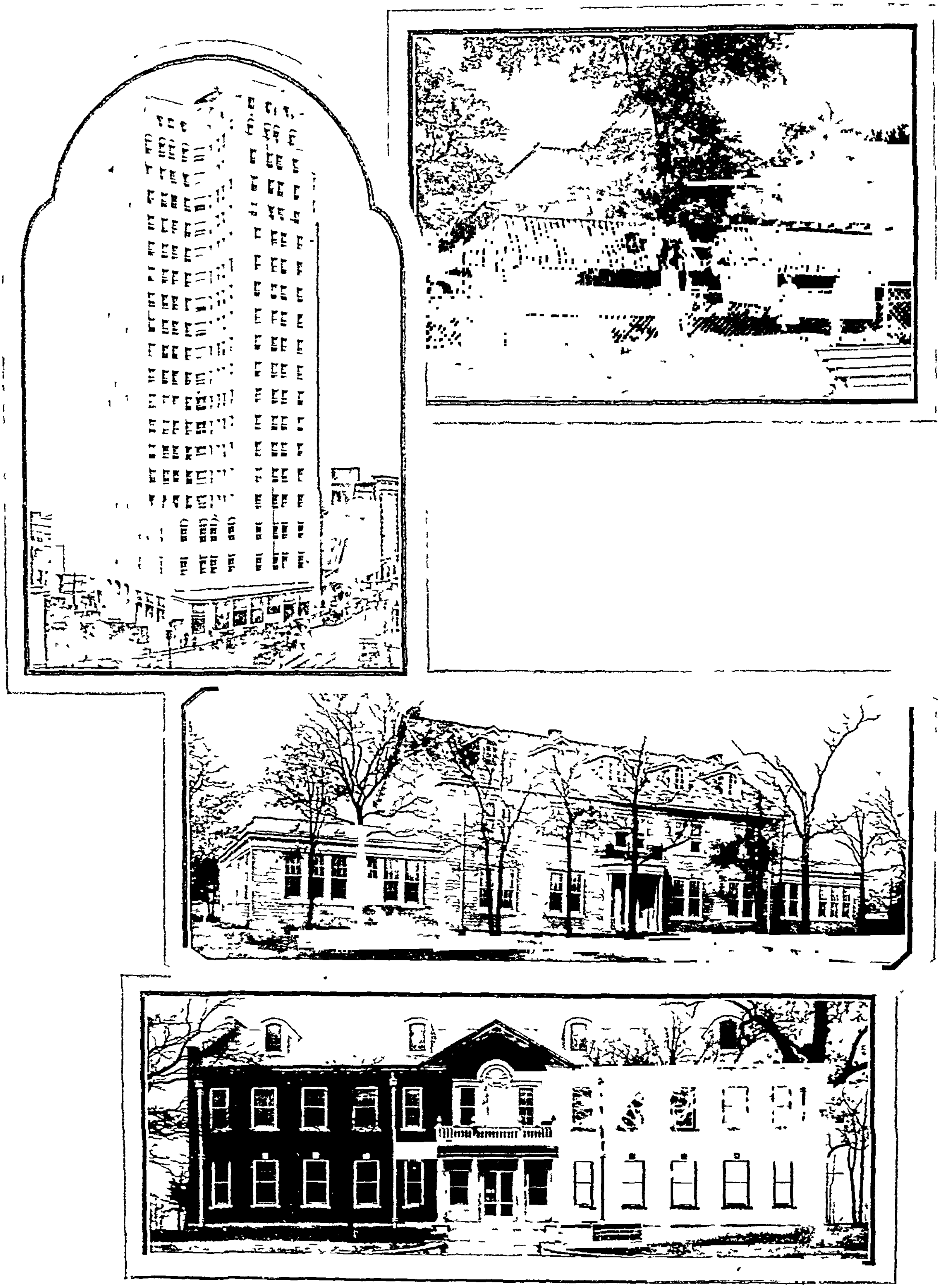
THE MAGNOLIA BUILDING AND THE DALLAS CANYON

MASONIC HOSPITAL

Established in 1923 by Hella Temple for the treatment of crippled children, the Masonic Hospital contains fifty beds and employs five registered nurses, fourteen attendant nurses, and twelve other employees. It is supported jointly by Hella Temple and the Scottish Rite bodies.

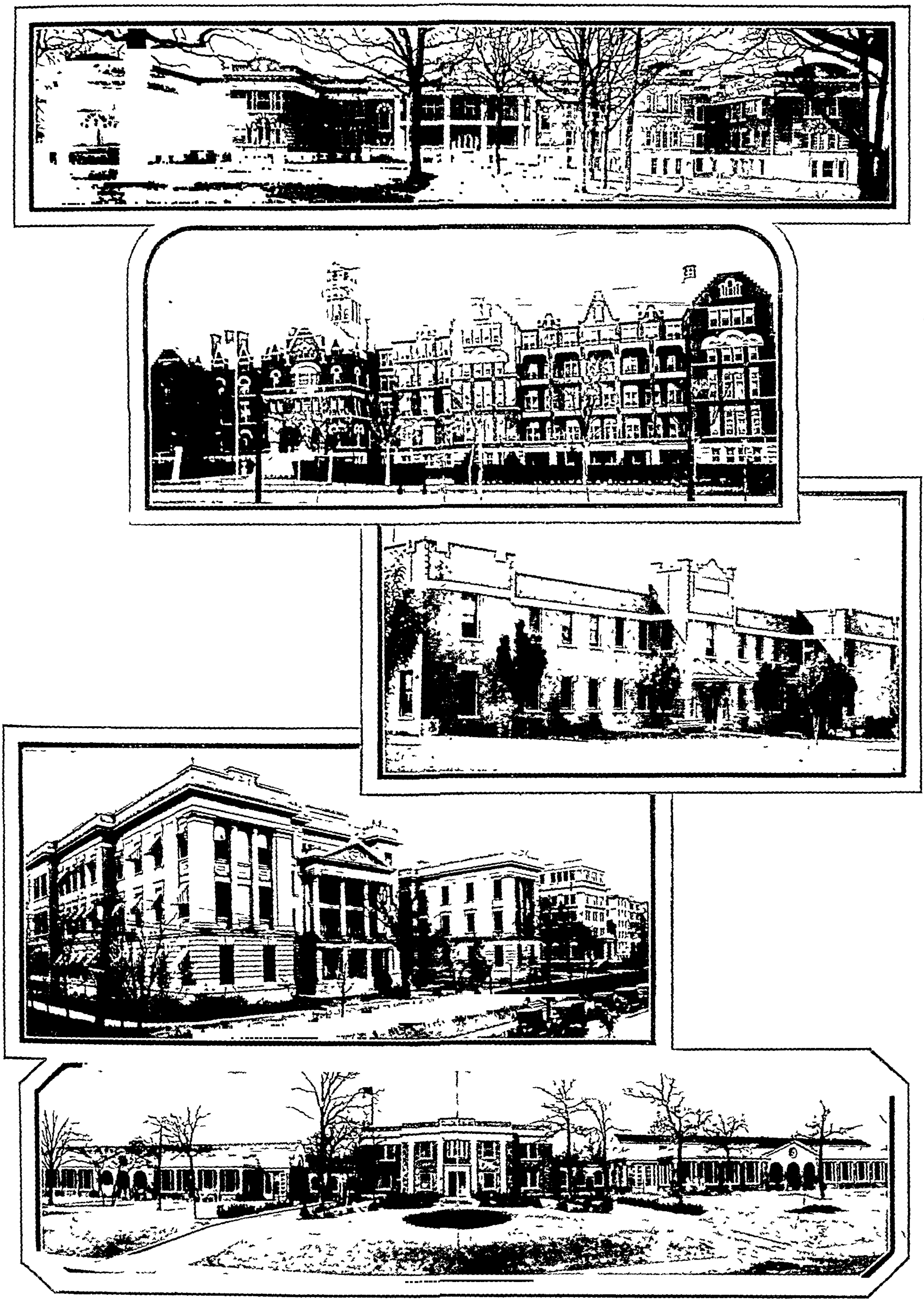
HOPE COTTAGE

Hope Cottage is an institution for foundlings. Originally established in 1918, it was moved to a modern and well



SOME DALLAS BUILDINGS OF INTEREST

Upper left: Medical Arts Building. Upper right: Dallas Baby Camp. Center: Hope Cottage. Lower: Presbyterian Clinic.



SOME HOSPITALS AND SANITARIUMS

Above: Parkland Hospital Center, left, above: Saint Paul's Sanitarium. Center, right: Woodlawn Sanitarium. Center, left, below: Baylor Hospital Below: Masonic Children's Hospital.

equipped building in 1924. It has 100 beds and employs twelve nurses.

Parkland Hospital, Hope Cottage, the Masonic Hospital and the Dallas Baby Camp are all located in what is rapidly becoming a medical section of the city. The Freeman Memorial Clinic and a privately owned reconstruction and orthopedic hospital are also located in this district. The grounds that surround the buildings are beautiful and are becoming *one of the points of interest most frequently visited by* sightseers in Dallas.

There are many smaller public and private sanatoriums and clinics. The Timberlawn Sanitarium is a forty bed hospital, employing eighteen nurses and treating nervous and mental diseases. The many fine clinics operated on the group system are helping to make Dallas a most complete medical center.

SPLENDID SCHOOLS

Dallas is the home of the Baylor College of Medicine, Pharmacy, Dentistry and Nursing. This college was originally organized as the medical department of the University of Dallas in 1900. In 1903 it was placed under the Baylor University of Waco. This college enjoys a class A rating from the Council on Medical Education and Hospitals of the American Medical Association, and its graduates now occupy many important places in the practice of medicine in Texas and elsewhere.

Southern Methodist University also is located at Dallas. The campus of this school, which has an enrolment of 3,000, is one of the show places of Dallas. The University of Dallas, a Catholic school for men and boys, has an impressive building in Oak Lawn.

The public school system of Dallas is recognized as one of the finest in the country. There are forty-five elementary and six high schools. The health of the pupils is receiving a great deal of attention from the board of education, and physical examinations are a prerequisite for entrance.

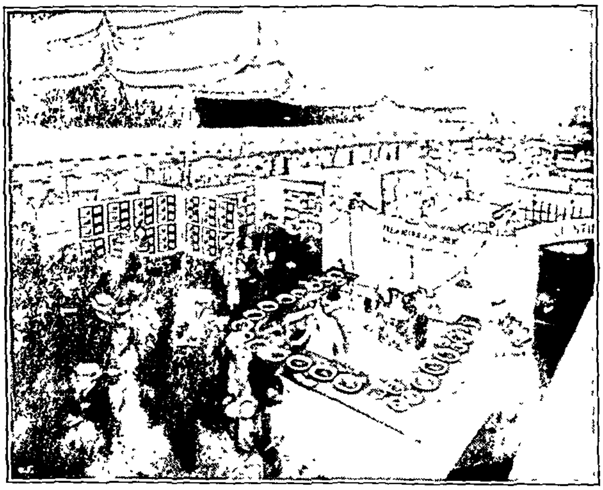
WELCOME TO DALLAS

Physicians of the American Medical Association will find good rooms for rest, golf and other amusements for enjoyment, and a true and hearty welcome to Dallas, "where men are looking forward."

TRANSPORTATION

Railroad Rates to Dallas

The passenger associations throughout the United States have authorized a rate of one and one-half fares for the benefit of members of the American Medical Association and dependent members of their families who will attend the annual session at Dallas. The Canadian Passenger Association has also authorized these reduced rates from points in Canada east of and including Armstrong, Fort William and Sault Ste. Marie. *In order to secure the reduced rates, it will be necessary for each member to secure a certificate from the ticket agent when he purchases his ticket to Dallas.* The certificate must be certified by the Secretary of the American Medical Association. This may be done at the Registration Bureau, located at Fair Park, in Dallas. The certificate must then be validated by a representative of the railroads who will be on duty near the Registration Bureau. When the certificate is so certified and validated, it will entitle its holder to purchase a return ticket to his home, over the same route traveled to Dallas, at one-half fare.



THE SCIENTIFIC EXHIBIT

This picture shows the exhibit at Atlantic City. The Dallas exhibit will be the most comprehensive in the history of the Association. See the program on page 780.

The certificate referred to is not a receipt for money paid for a ticket. *Be sure to ask your railroad ticket agent for a CERTIFICATE when you purchase your ticket to Dallas.*

The dates of sale of tickets to Dallas will be April 15 to 21, inclusive, in the territories of the Southwestern Passenger Association, the New England Passenger Association, the Trunk Line Association, the Central Passenger Association, the Southeastern Passenger Association and the Canadian Passenger Association. In the Transcontinental and Western Passenger Associations' territory the dates of sale of tickets from Minnesota, Michigan, Montana, North Dakota, South Dakota, Utah and Wisconsin will be April 14 to 20; from Arizona, British Columbia, California, Idaho, Nevada, Oregon and Washington, April 13 to 19, and from Colorado, Illinois, Iowa, Kansas, Missouri, Nebraska, New Mexico and Wyoming, April 15-21. Certificates *properly certified and validated* will be honored for purchasing tickets for the return journey at one-half fare up to and including April 27, *but these certificates will not be honored after that date.* No refund of fare will be made on account of failure to obtain proper certificate when ticket to Dallas is purchased, nor on account of failure to present validated certificate when purchasing return ticket. The return ticket must be used over the same route as that traveled going to Dallas. Return tickets issued at the reduced rate will not be good on any limited train on which such reduced fare transportation is not honored.

Special Trains from Kansas City and St. Louis

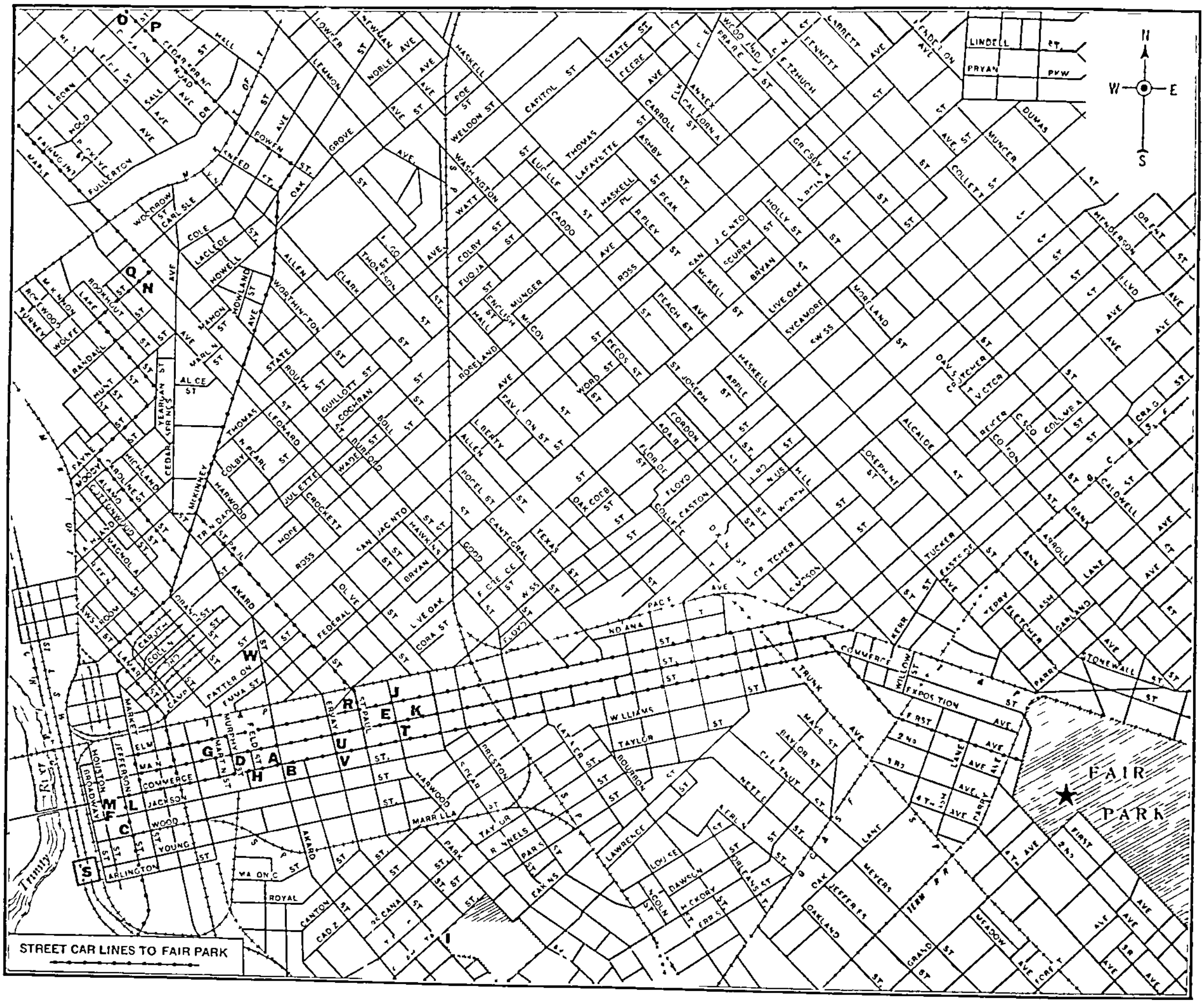
Arrangements are being made for special trains to carry physicians to the Dallas Session from St. Louis and from Kansas City. One train will leave Kansas City at 10:10 p. m., arriving in Dallas at 12 o'clock noon the next day; another train will leave St. Louis at 6:45 p. m., arriving in Dallas at 12:45 p. m. next day. These trains are being arranged by the M. K. T. lines. A rate of fare and one-half for the round trip on the certificate plan will apply from all points. In addition to these trains, the M. K. T. lines operate trains daily, leaving St. Louis at 9:06 a. m. and 6:50 p. m., and leaving Kansas City at 4:30 p. m. and 10:10 p. m.

Special Train from Chicago

The Chicago Medical Society will again conduct an official train to the Annual Session over the Illinois Central System, Missouri Pacific Lines, and the Texas and Pacific Railway. A golf special will leave Chicago, 11:45 a. m., Friday, April 16, arriving in Dallas, 7 a. m., Monday, April 19, stopping over two days at Hot Springs, Ark., with opportunity for golf and other amusements. On the return trip there will be opportunity for a two-day visit in New Orleans. The fare, Chicago to Dallas, is $34.36, to which should be added the cost of Pullman accommodations. Information concerning this trip with folder may be had by addressing the local agent, or by writing directly to the offices of the Chicago Medical Society.

SOME DALLAS EDUCATIONAL INSTITUTIONS
Upper left: DALLAS UNIVERSITY. Upper right: SOUTHERN METHODIST UNIVERSITY. Center, left: BAYLOR UNIVERSITY. Center, right: ST. MARY'S COLLEGE. Lower: NORTH DALLAS HIGH SCHOOL

MAP OF DALLAS



HOTELS

A—ADOLPHUS
B—BAKER
C—JEFFERSON
D—SOUTHLAND
E—HILTON
F—SCOTT
G—ST. GEORGE
H—WALDORF
I—PARK
J—CAMPBELL HOUSE
K—MILAM
L—CLIFF
M—TEXAN

APARTMENT AND FAMILY HOTELS

N—STONELEIGH COURT APARTMENTS
O—MELROSE COURT APARTMENTS
P—OAK LAWN INN
Q—MAPLE TERRACE APARTMENTS

MISCELLANEOUS

R—DALLAS ATHLETIC CLUB
S—UNION TERMINAL
T—MUNICIPAL BUILDING
U—POST OFFICE
V—INTERURBAN STATION
W—FIRST BAPTIST CHURCH

★ Section Meeting Places; Registration Bureau; Scientific Exhibit; Technical Exhibit; Motion Picture Theater; Post Office; Information Bureau.

REGISTRATION

The Bureau of Registration will be located in the Automobile-Manufacturers' Building at Fair Park. Members of the Committee on Registration of the Local Committee on Arrangements will be on hand to assist those who desire to register.

A branch postoffice in charge of government postoffice officials will be opened for the convenience of visitors, and an information bureau will be operated in connection with the Bureau of Registration.

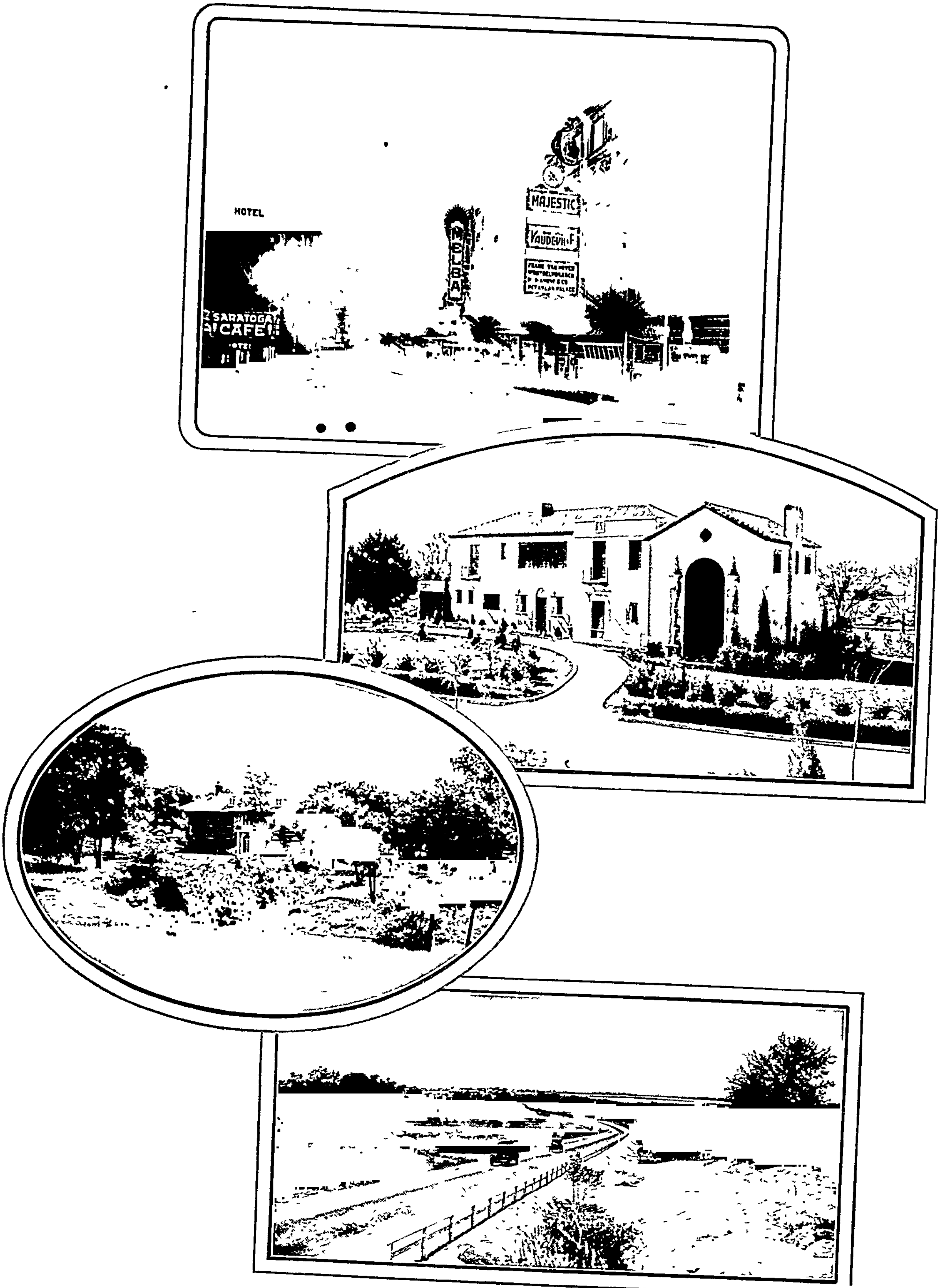
Who May Register

Only Fellows, Affiliate, Associate and Honorary Fellows and Invited Guests may register and take part in the work of the sections. Fellows of the Scientific Assembly are those who have, on the prescribed form, applied for Fellowship, subscribed to The Journal, and paid their Fellowship dues for the current year. The annual Fellowship dues provide a subscription to The Journal for one year. Fellowship cards are sent to all Fellows after payment of annual dues, and these cards should be presented at the registration window. Any who have not received cards for 1926 should secure them at once by writing to the American Medical Association, 535 North Dearborn Street, Chicago.

Members in Good Standing Eligible to Fellowship

Members in good standing in county medical societies are members of state associations and of the American Medical Association. All members in good standing are eligible for Fellowship in the Scientific Assembly, and may qualify as Fellows after reaching Dallas; but it will be far better to qualify before leaving home in order that pocket cards may be secured and brought to Dallas so that registration can be more easily and more promptly effected. Application forms may be had on request.

Subscribers to The Journal who have not received pocket cards for 1926 should write to the American Medical Association for application blanks and information as to further requirements.



THEATER ROW AND ROADS TO DALLAS

Register Early

Fellows living in Dallas and in Texas, as well as all other Fellows who are in Dallas on Monday and Tuesday, should register as early as possible. The names of those who register on the first day will appear in the *Daily Bulletin* the next day, and this will enable visiting physicians to find friends if they have registered.

Suggestions That Will Facilitate Registration

Fellows should fill out completely the spaces on both sections of the front of the *white* registration card, which will be found on the tables in front of the Registration Bureau.

Physicians who desire to qualify as Fellows should fill out completely the spaces on both sections of the front of the *blue* registration card, and sign the application on the back. These blue cards also will be found on the tables

Entries on the registration cards should be written plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*.

1. Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out *white* registration card, together with their pocket cards, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a copy of the official program and other printed matter of interest to those attending the annual session.

2. Those Fellows who have forgotten their pocket cards should present the filled in *white* registration card at the window marked "Paid—No Card." The work of registration at this window will be conducted as rapidly as possible; but the necessity of finding the Fellow's name on the Fellowship roster may occupy a considerable time and will occasion inconvenience to those who neglect to bring their pocket cards with them.

3. The Fellow whose 1926 dues are unpaid should present his filled in *white* registration card with the amount of his Fellowship dues ($5) at one of the windows marked "Cash." Here, too, there will be some delay; but the work of registering will be conducted as promptly as possible.

4. As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than April 1. Any applications received later than April 1 will be given prompt attention, but the Fellowship pocket card may not reach the applicant in time so that he can use it in registering at the Dallas Session.

As already stated, it will be possible for members of the organization to qualify as Fellows at Dallas. In order to do this, applicants for Fellowship will be required to fill out both sections of the front of the *blue* registration card and sign the formal application printed on the reverse side. It is suggested that those who apply for Fellowship at Dallas shall provide themselves, before leaving home, with certificates signed by the secretary of their state association, attesting that they are members in good standing in the state and county branches of the organization. A state membership card for 1926 will be acceptable. The certificate or membership card should be presented along with the filled in *blue* registration card at the window in the registration booth marked "Applicants for Fellowship."

FIRST BAPTIST CHURCH
Place of the Opening General Meeting

MEETING PLACES AND GENERAL HEADQUARTERS

House of Delegates: Roof Garden, Baker Hotel, Commerce and Akard.

Opening General Meeting: First Baptist Church, 606 North Ervay Street.

Practice of Medicine: Auditorium, Fair Park.

Surgery, General and Abdominal: Automobile-Manufacturers' Building, Fair Park.

Obstetrics, Gynecology and Abdominal Surgery: Automobile-Manufacturers' Building, Fair Park.

Ophthalmology: Fine Arts Building, Fair Park.

Laryngology, Otology and Rhinology: Fine Arts Building, Fair Park.

Diseases of Children: Auditorium, Fair Park.

Pharmacology and Therapeutics: Automobile-Manufacturers' Building, Fair Park.

Pathology and Physiology: Automobile-Manufacturers' Building, Fair Park.

Nervous and Mental Diseases: Automobile-Manufacturers' Building, Fair Park.

Dermatology and Syphilology: Automobile-Manufacturers' Building, Fair Park.

Preventive and Industrial Medicine and Public Health: Automobile-Manufacturers' Building, Fair Park.

Urology: Automobile-Manufacturers' Building, Fair Park.

Orthopedic Surgery: Automobile-Manufacturers' Building, Fair Park.

Gastro-Enterology and Proctology: Automobile-Manufacturers' Building, Fair Park.

Radiology: Automobile-Manufacturers' Building, Fair Park.

Moving Picture Theater: Automobile-Manufacturers' Building, Fair Park.

Diagnostic Clinics: Fair Park.

General Headquarters of Scientific Exhibit, Registration Bureau, Technical Exhibit, Information Bureau, Association Branch Post Office: Automobile-Manufacturers' Building, Fair Park.

IN OLD MEXICO

Upper left: XOCHIMILCO. Upper right: SACRA MONTE—AMECA MECA. Center: AMECA MECA. Lower left: CATHEDRAL—MEXICO CITY. Lower right: POPOCATAPETL IN ERUPTION. From AMECA MECA

ENTERTAINMENT

The local committee for the Dallas Session has planned an elaborate series of entertainments which promise a full program to every one attending the session.

On Sunday evening, April 18, plans have been made for motor tours through the city. At 5:15 a concert by the Dallas Symphony Orchestra will take place at the Dallas Fair Park Auditorium. Following this concert, arrangements have been made for various private entertainments.

On Monday, April 19, the House of Delegates convenes. The exhibits will be open. During the entire day golf tournaments will be held at the various club houses, which will be open to visitors.

On Tuesday afternoon a garden party is to be tendered to the Woman's Auxiliary and their friends at Maple Terrace. Tuesday night, April 20, the opening meeting is to be held at the First Baptist Church, Ervay and San Jacinto streets. At this meeting, the President, Dr. Wendell C. Phillips, will deliver his presidential address.

Wednesday, April 21, following the scientific sessions in the morning, a barbecue will be held at Fair Park from 12 to 2 p. m. The barbecue is tendered by Dr. John H. Dean, with carving under the supervision of Mr. Max Hahn, for forty years expert "barbecuer" of Dallas.

Last June, Dr. Dean selected eighty cows with calves about 6 weeks old out of a herd of 4,000. These cows were selected according to size, vigor and milk producing qualities, so as to insure a rapid, healthy growth for each calf. The eighty cows and calves were turned into a six-section pasture which had not been used, and which contained an abundance of fresh food and water, assuring the cattle of a properly selected, scientific diet. It is customary to wean calves from the mother after six months, but this plan was not followed with the calves to be used for the barbecue, in order that they might secure their mother's milk, so as to provide the best nourishment for rapid, healthful growth. A full diet was begun for the cattle in December. The calves will be killed in advance of the session and the meat prepared so as to be in the best condition for the barbecue. Mr. Tony Bazar, with a corps of able assistants, has been delegated to arrange for the service during the barbecue.

On Wednesday night, from 6:30 to 9 o'clock, various fraternities and alumni will be given opportunity to hold special sessions. Arrangements have been made for a musicale and reception for the ladies under the auspices of the Woman's Auxiliary and of the Dallas County Medical Society. Arrangements have also been made by the Dallas County Medical Society to provide special entertainers at the various hotels which represent section headquarters.

On Thursday, April 22, following the programs of the sections, a Mexican dinner will be served at Fair Park by the Dallas County Medical Society. Plans have been made for Mexican entertainment, and the service will be tendered by Mexican waitresses. On Thursday night, April 22, the President's reception and ball will be held, using the ballrooms of the Adolphus and Baker hotels. Orchestras will be provided for continuous music in both places.

DALLAS HOTELS

Following is a list of the hotels of Dallas In writing for hotel reservations, state whether a single or double room is desired, whether a room with or without a bath is wanted, and, if possible, the time of expected arrival.

Leading Hotels at Dallas

Name and Address	No. of Rooms	Single Without Bath	Single With Bath	Double Without Bath	Double With Bath
Adolphus Hotel............ Commerce and Akard	825	$1.50 3.50	$2.50 -6.00	$3.00 -6.00	$5.00 -8.00
Baker Hotel............... Commerce and Akard	700	.....	$2.00 -5.00	.....	$4.50 -7.00
Jefferson Hotel............ Wood and Jefferson	450	$1.50 -2.50	$2.50 -4.00	$3.00 -4.00	$4.00 8.00
Southland Hotel........... Main and Murphy	250	$1.50 -2.00	$2.50 -3.00	$3.00 -4.00	$4.00 -5.00
Hilton Hotel.............. Main and Harwood	320	$1.50 -1.75	$2.00 -3.00	$2.75 up	$3.00 -5.00
Scott Hotel................ Houston and Jackson	160	.....	$2.00 -2.50	.....	$3.00 -3.50
St. George Hotel.......... 1012 Main	150	$1.00	$2.00	$2.00	$4.00
Waldorf Hotel............. 1302 Commerce	150	$1.00 -1.50	$2.00 -2.50	$2.50	$4.00 .....
Park Hotel................ 1312 S. Ervay	175	$1.00 -1.50	$2.00 -2.50	$2.00 up	$2.50 -3.50
Campbell House........... Elm and Harwood	108	$1.25 -1.50	$2.00	$2.50	$3.50 -4.00
Milam Hotel............... 2013 Main	60	$1.50	$1.75 -2.50	$2.50	$2.75 -3.00
Cliff Hotel................ 201 E. Jefferson	147	$1.00 -1.50	$2.00	$1.50	$3.00
Texan Hotel............... 212 S. Houston	54	$1.50	$2.00	$2.00	$2.50
Apartment and Family Hotels					
Stoneleigh Court Apts...... 2927 Maple Avenue	405	.....	$4.00	.....	$6.00
Melrose Court Apts........ 3015 Oak Lawn Avenue	450	.....	$3.50	.....	$5.00
Oak Lawn Inn............. 3702 Cedar Springs	52	$1.00	.....	$2.50	.....
Maple Terrace Apts....... 3009 Maple Avenue	400	.....	$3.00	.....	$5.00

GOLFING TOURNAMENT

The twelfth tournament of the American Medical Golfing Association is set for Monday, April 19, all day play being planned, to be followed by a golf dinner in the evening. Dr. L. C. Ellis, Medical Arts Building, Dallas, is chairman of the local golf committee and ex officio secretary of the Golfing Association.

Any male member of the American Medical Association is privileged to join this association. Applications for enrolment and entries to play should be sent to the business secretary, Mr. John Lorenzo Walter, 1507 Hinman Avenue, Evanston, Ill.

Full details of the golf program will be mailed in due season to all Fellows who are then on the mailing list of the Golfing Association.

Railway golfing specials, with arrangements for play en route, are being planned.

WOMAN'S AUXILIARY

The Woman's Auxiliary of the American Medical Association has planned an elaborate program for the Dallas Session.

Tuesday

10 a. m., meeting of Executive Board, English Room, Adolphus Hotel.

4 to 6 p. m., garden party, Maple Terrace, Mrs. John Oliver McReynolds, honoring; Mrs. Seale Harris, president; Mrs. F. P. Gengenbach, president-elect, and visiting ladies.

8 p. m., installation of President of the American Medical Association.

Wednesday

10 a. m., annual session of Woman's Auxiliary of the American Medical Association, Palm Garden, Adolphus Hotel.

12:30 p. m., barbecue, Fair Park.

8 p. m., musicale, roof garden, Baker Hotel, Woman's Auxiliary to Dallas County Medical Association, honoring the Woman's Auxiliary of the American Medical Association, and visiting ladies.

Thursday

12:30 p. m., luncheon, Fair Park.

9 p. m., President's reception.

SIDE-TRIPS IN TEXAS

The traveler to the Dallas Session will have an unusual opportunity to visit other communities of the West and Southwest that are making special efforts to provide features of interest to the physician. In fact, the physician who goes to Dallas may count on having all of Texas as his host and, indeed, Mexico as well.

EL PASO

Difficult though it is to appreciate, the rice marshes and orange groves of South Texas are a part of the same state in which one may climb into the Rockies and drink the dry air and perpetual sunshine of El Paso.

Texas runs out an arm so far into the great Southwest that she actually has El Paso planted west of the central meridian of New Mexico and farther south than the southernmost end of California. El Paso is the geographic center of the great arid section, extending from Colorado deep into old Mexico, and from the plains of Texas west to the California line. This "Center of the Health Country" rests aloft in a mountain range, 4,000 feet above the sea.

On the side trip to El Paso there will be more to greet one than sparkling air and a sunlight of Alpine intensity. Progress and industry and international commerce pass here, using El Paso as the gateway into Mexico. Romance passed this way when, in the sixteenth century, the Spanish conquest came and left behind the Franciscan padres and their quaint old missions, which still stand. Again, the pioneers of America passed this way when the stage coach came with the "forty-niner," the six-gun man, the miner and the cattleman. All left their mark, which can be seen today in the architecture, the institutions and the customs of El Paso.

One may go abroad from El Paso for six cents. And ere leaving the international bridge, one realizes that one is in a foreign land, interesting in its pleasures, its habits and its institutions.

El Paso welcomes you to Texas!

FORT WORTH

Developments in West Texas, rivaling those in California and Florida, have given Fort Worth an impetus that promises to send her far forward; for Fort Worth is the market place for the live stock, cotton, grain and petroleum produced so bountifully in West Texas. Fort Worth men own millions of acres of West Texas land and hundreds of thousands of cattle. The railroads of West Texas head up at Fort Worth, with advantageous rates, making Fort Worth indeed "the capital of West Texas."

During the last five years the number of farms in Fort Worth's preferential rate territory has increased by 21,367, exceeding by more than 4,000 the increase for all of California and more than quadrupling the gain made by Florida.

In the last five years West Texas has gained 500,000 in population, and raw land at the rate of more than 1,000,000 acres a year has gone under the plow. The influx of new settlers is increasing and seven consecutive years without a crop failure have been recorded. The recent estimate of population made by the Bureau of the Census credited Fort Worth with a gain of more than 45 per cent since 1920.

Fifteen subdivisions are being sold. New homes are being completed at the rate of 300 a month. The Fort Worth Club building of fourteen stories, a ten story addition to the First National Bank Building and an eight story building for a wholesale dry goods store are being completed. Large new buildings for two of the city's department stores and one of the leading furniture stores of the South have been occupied in the last three months.

Fort Worth's industries are employing more men and turning out a greater volume of products than ever before in the history of the city. A cement plant, a cotton mill and an addition to one of the refineries completed during the year, each cost more than $1,000,000. Several smaller plants were built.

GALVESTON

In 1818 Jean LaFitte, a French adventurer, established his famous commune on Galveston Island, using this as a base for carrying on his warfare with Spain. The LaFitte commune passed in time, and its place was taken by a thriving little seafaring community which played an important part in the early history of Texas. The city was named for Count Bernardo De Galvez in 1838, and in 1839 was incorporated into a city.

The things that caused the strategist LaFitte to select Galveston as a base for his expeditions are the primary causes for the success of the port and are largely responsible for its reputation as a resort. These were the items of location and climate, with all their attendant advantages. Galveston has one of the finest harbors in the country, capable of receiving hundreds of the largest ships and handling annually a volume of business aggregating nearly a billion dollars. The total value of foreign business, exports and imports, shows Galveston as ranking second only to New York. It is served by four trunk line railroads, which, with their connections, reach every section of the southwestern territory.

Galveston leads the ports of the nation in the exportation of cotton. An average of more than three million bales, almost half of the total exports of the country, find their way through this port to the markets of the world every year. It is also the principal sulphur exporting port and handles enormous quantities of oil, lumber, spelter, cottonseed products and many other commodities. The imports consist principally of raw sugar, crude oil, sisal, coffee and various novelties from the Orient.

The development of the port of Galveston has cost the United States government a little less than $20,000,000, but this amount is more than saved to the people of the Southwest every two years.

Galveston's reputation as a premier winter and summer resort is widespread and secure, and her future growth in that direction is unquestioned and assured. This is due largely to her matchless climate and to the incentives and natural facilities for outdoor recreations in subtropical environments, which have a lure that few can resist.

The fame of Galveston as the "playground of the Southwest" is brought about by its equable climate, its natural location, surf bathing, boating, fishing, hunting, tropical foliage and fine hotels.

HOUSTON

Houston is often referred to as a city that fooled the geographers. Situated inland 50 miles from the Gulf of Mexico yet today it is an important world port dealing intensively in ocean shipping.

The first permanent settlement on the banks of Buffalo Bayou, where the city of Houston now stands, was made in 1836 immediately after the battle of San Jacinto, the deciding conflict in the struggle of the republic of Texas from Mexican domination. It was fought, April 21, 1836, and that date is annually observed throughout all Texas as one of the year's most significant holidays. The battlefield, which is now a state park, is situated 22 miles from Houston and is reached over a hard-surfaced highway or by boat on the Houston ship channel.

The city of Houston was named for General Sam Houston, the leader of the Texas forces when Texas achieved her independence. Further honors were conferred on the pioneer village when, Dec. 15, 1836, the first congress of the republic of Texas designated Houston the new nation's first capital. The capitol building, a rough frame structure, stood on the site of the Rice Hotel, the center of the city's present retail business section.

In November, 1914, Houston exported her first bale of cotton, and the total exportation of that commodity for the 1919-1920 cotton season was 69,839 bales. In the short space of five years since that time Houston has reached the rank of second cotton port of America. At the close of the 1924-1925 season, more than 1,800,000 bales of the fleecy staple were shipped abroad from the port of Houston.

The cultural side of Houston has not been neglected. From its humble beginning in 1836, Houston has grown into a modern city of skyscrapers, paved streets, boulevards, parks, fine schools and beautiful churches. In Rice Institute, Houston has one of the prominent universities of the South. The original endowment of William Marsh Rice has grown to $14,000,000. The equipment of Rice Institute is of the finest and its faculty has been recruited from the educational centers of the world.

Houston has recently constructed an art museum, a magnificent public library, an outdoor memorial theater, a remodeled municipal auditorium, and a number of projects in the interest of outdoor recreation.

Houston has 2,500 acres of land in its park system, not including a number of small ward beauty spots for public enjoyment and a few playgrounds not incorporated in the parks. One of the most interesting zoological gardens in the South is housed in Hermann Park.

SAN ANTONIO

San Antonio lies 700 feet above sea level and has a climate that is balmy and free from too much humidity. The city has fifty-two parks and plazas and numerous golf courses for the entertainment of the visitor. Like many another Southern city, its Latin atmosphere lends unusual charm. Here one finds Alamo, the monument to the liberty of Texas. South of the city are five famous missions with marvelous stained windows and beautiful carvings. One hour from San Antonio, Medina Lake, 16 miles long and 2 miles wide, famous for its fighting black bass, attract fishermen from all over the country. Near San Antonio also is a hunting ground, replete with quail, jack rabbit, squirrel and other small game.

Of particular interest at San Antonio is Fort Sam Houston, a center for army activities and particularly the army flying schools and aviation fields. The hotels are modern, and ample accommodations are constantly available for visitors.

IN OLD MEXICO

Special efforts are being made to arrange a tour into Mexico, especially for physicians who will attend the Dallas Session. Two special trains will leave Dallas on the closing day of the Annual Session going to Houston and Galveston, into the Rio Grande valley and crossing the border into Mexico at Brownsville. The first stop in Mexico will be at Matamoras. It is planned to stop at fifteen historical and important points, including one week in Mexico City. On the return trip, the special trains will go to San Antonio, arriving there, May 9.

In Mexico City, a reception will be tendered to the visitors by President Calles. Arrangements may be made at Dallas for extending the time limit on transportation until May 12 so that physicians can avail themselves of this trip.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located in the Manufacturers' Building, adjacent to the Technical Exhibit and the Motion Picture Theater. In case of all exhibits, personal demonstrations will be given. Among the exhibits will be the following:

SPECIAL EXHIBITS

At the request of the Committee on Scientific Exhibit of the Board of Trustees, there will be three special exhibits. (These exhibits will not be open to awards.)

Immunology Exhibit: This exhibit will be under the active charge of Dr. H. R. Wahl, head of the Department of Pathology, University of Kansas; Dr. Ludvig Hektoen, director of the John McCormick Institute of Infectious Diseases, will act in behalf of the Advisory Committee. Cooperating with Dr. Wahl are Dr. Esmond R. Long, associate professor of pathology, University of Chicago; Dr. R. W. Lawson, Department of Bacteriology, Baylor University, and Dr. J. H. Black, Dallas. The exhibit will illustrate practical applications of immunology. There will be booths devoted to the demonstration of the application of toxins, antitoxins, agglutinins, precipitins, hemolysins, phagocytosis, vaccines, especially tuberculins, smallpox, rabies and typhoid vaccines, and allergins. Various individuals and organizations are cooperating in behalf of the Advisory Committee. The United States Public Health Service will demonstrate a coordinating exhibit on technic of vaccination and preparation and proper use of the vaccine.

Morbid Anatomy Exhibit: Fresh pathologic material will be demonstrated daily. It is proposed to secure suitable material from various hospitals in larger cities of Texas, augmented by material from Dallas. The committee in charge is composed of Dr. George T. Caldwell, professor of pathology, Baylor Medical College, chairman; Dr. W. H. Moursund, dean of Baylor Medical College, and Dr. Kenneth M. Lynch, Dallas.

Exhibit on Fractures: This exhibit will cover a series of Colles' fracture, the hyperextension chauffeurs' fracture of the radial styloid, Pott's fracture, reversed Pott's fracture, and the Cotton fracture, the fracture of both bones just above the joint. This exhibit is in charge of a committee composed of Drs. Frederick J. Cotton, Robert B. Osgood and Charles L. Scudder, Boston.

PATHOLOGIC AND LABORATORY EXHIBITS

Janet Caldwell and **Ozro T. Woods**, Baylor Hospital, Dallas: Bacteriophage. Demonstration of the usual manifestations of the bacteriophage in solid and fluid mediums using chiefly *B. typhosus* and *B. coli*, including titrations by serial dilution.

Aldo Castellani, Department of Tropical Medicine, School of Medicine, Tulane University of Louisiana, New Orleans: Some tropical mycoses and their causative agents. Exhibit will consist of cultures of fungi and also charts. It is proposed as part of Dr. Castellani's exhibit to demonstrate the technic of isolation and of staining various mycologic specimens. The international reputation of Dr. Castellani and his experience as a teacher in the London School of Tropical Medicine indicate opportunity to visitors to the session for postgraduate study in a field rarely covered in American schools.

Henry A. Cotton, Trenton, N. J.: Relation of chronic sepsis and toxemia to mental diseases. Exhibit of specimens illustrating lesions in the teeth, tonsils and gastro-intestinal tract, with drawings of the various lesions with especial reference to the gastro-intestinal tract. Statistics and data showing results of treatment.

Russell L. Haden, University of Kansas School of Medicine, Kansas City, Kan.: Bacteriologic study of periapical dental infection. Exhibit of charts showing results of bacteriologic study of periapical dental infection: dental roentgenograms, with original culture tubes for comparison of roentgenographic and bacteriologic findings; photographs showing lesions in rabbits following the injection of bacteria from dental foci; museum specimens illustrating typical lesions in animals produced by bacteria from chronic foci of infection; charts showing the results of studies in elective localization.

F. W. Hartman, **Adolph Bolliger** and **H. P. Doub**, Detroit: Experimental nephritis produced by roentgen radiation. Exhibit of gross specimens, photographs, photomicrographs and charts showing functional and vascular changes.

Heart Study Group: **George Blumer**, New Haven; **Alexander Lambert** (chairman), New York; **Emanuel Libman**, New York, and **S. Calvin Smith**, Philadelphia: *Modern methods of heart study.* Two years ago this subject was handled by Drs. Blumer, Lambert and Smith, who, as a special committee, undertook the exhibit at the request of the Board of Trustees. Last year this group carried on, as individuals, in order to develop certain additional phases, and this year will continue the study. The exhibit will consist of presentation of cardiac infections as shown by rheumatic involvement of the valves and aorta; the syphilitic involvement of the aorta and the valves; and acute and subacute endocarditis, including the possibilities and healing processes in these infections; also the nerve supply of the heart and angina pectoris will be presented. The electrocardiograph will be continued with some advanced work illustrating the changes that may be expected in the electrocardiogram of heart muscle involvement.

Glenville Giddings, Atlanta, Ga.: Cultural study: Pulmonary streptothricosis. Exhibit showing organism growing on various mediums. Photomicrographs showing colonies of various ages; detection of organisms in sputum with different stains; showing organisms recovered from experimental animals with different stains.

B. S. Kline, A. B. Willard and A. M. Young, Cleveland: Microscopic slide precipitation test for syphilis. Exhibit showing comparative results with Wassermann and Kahn tests, with demonstrations.

W. W. Looney, Department of Anatomy, Baylor University, Dallas: Regional dissections in gross anatomy. Exhibit of special dissections of various regions of the body, colored to contrast the different anatomic structures.

Kenneth M. Lynch, Dallas Medical and Surgical Clinic, Dallas: Protozoa of the Alimentary Tract of Man. 1. Amebas of man in the rat. 2. Differential diagnosis. 3. Prevalence, relation to age, sex, pathologic state, etc., of the flagellates. 4. Culture work. Exhibit will include microscopic demonstration and differentiation of protozoa of the alimentary tract, also showing cultures of some, and some of the amebas of man as obtained from the rat.

W. F. Manges, Philadelphia: Foreign body cases. Photographs of foreign bodies removed from air and food passages; roentgenograms of foreign bodies.

Mayo Clinic and Mayo Foundation Group, Rochester, Minn.: (1) E. H. Hargis (in collaboration with Surgical Staff of Mayo Clinic): Carcinoma of the stomach. Exhibit of specimens of carcinoma of the stomach which were removed at operation or obtained at necropsy, illustrating many of the various types of lesions of this condition. (2) P. P. Vinson and J. H. Moersch: Foreign bodies removed from air and food passages. Exhibit of a collection of foreign bodies removed from the air and food passages, photographs and history abstracts, together with several models devised for the purpose of stimulating the necessary precaution to prevent foreign body ingestion by children. (3) A. H. McIndoe and V. S. Counseller: Injection and corrosion specimens of the vascular radicles of the liver and biliary tract. Exhibit of reproduction of the vascular radicles and biliary tract of the normal liver and of the liver in several pathologic conditions. The specimens were obtained by means of injection and corrosion technic. The more important points to be illustrated are (*a*) the great vascularity of the normal liver; (*b*) the reduced vascularity in cirrhosis; (*c*) the dilatation of the biliary tract following obstruction of the common bile ducts.

Ernest Sachs, Washington University School of Medicine, St. Louis: Neurologic lesions. Exhibit of drawings illustrating various types of neurologic lesions; specimens of various types of brain and spinal cord tumors, with explanations.

United States Bureau of Entomology, Dallas: Some insects and related forms which attack man or carry disease. Exhibit will consist principally of bromide enlargements showing certain forms of animal life which attack man and illustrating the lesions produced. These will include the developments of the malarial parasites within the bodies of mosquitoes, certain flies which cause myiasis, some ticks which carry diseases, and creeping eruption of the Southern states. Models of fly traps and other devices for controlling some of the insects will be included.

F. B. Young and A. L. Cooper, Scottsbluff, Neb.: Fossil and prehistoric pathologic conditions; paleopathology. Exhibit of pathologic fossil conditions, prehistoric remains, photographs and prints, mounted on cardboard and arranged to show both normal and pathologic conditions. A series of roentgen-ray films of those conditions suitable for such study. A study of the persistence of certain types of pathologic conditions of the bones from early geological times to the present, with the specimens in series.

Arthur M. Yudkin, New Haven, Conn.: Ocular disorders attributable to dietary deficiencies. Exhibit of: (*a*) paintings illustrating disorders observed; (*b*) enlarged photomicrographs showing characteristic histologic changes in the eye and adnexa; (*c*) demonstration (with the use of microscopes) of the histopathology of the ocular disorders; (*d*) exhibits illustrating types of diet involved.

MEDICAL, SURGICAL AND RADIOLOGIC EXHIBITS

W. W. Duke, Kansas City, Mo.: Allergy. Exhibit of photographs; mounted specimens of plants; specimens of plants; specimens of pollen, gross and microscopic; colored lantern slides and lumière plates, with demonstrations.

Walter J. Wilson, Detroit: Mitral stenosis and vagal pressure. Exhibit of electrocardiograms showing mitral stenosis: (*a*) auricular flutter, (*b*) auricular fibrillation, (*c*) paroxysmal tachycardia, (*d*) split p waves; vagal pressure: (*a*) heart block, (*b*) cardiac standstill, (*c*) changes in p waves.

Vilray P. Blair, St. Louis: Corrections of single harelip—primary and secondary operations. Exhibit of photographs, casts and colored models showing various types of original condition, method of correcting these and illustrating the corrected cases; also exhibit showing various types of poor results from operation and the method of correction.

Edward A. Cayo, San Antonio, Texas: Orthopedic appliances and instruments. Exhibit of eight unusual appliances and instruments.

A. C. Scott, Temple, Texas: (1) Rapid intestinal anastomosis by a rapid suture clamp. (2) Electric cautery in treatment of cancer. Exhibit of various "historic" cauteries.

Julien E. Benjamin and Samuel Brown, Jewish Hospital, Cincinnati: Roentgen-ray and electrocardiographic studies. Exhibit of roentgenograms of unusual cardiac conditions and diseases of aorta showing value of lateral views; electrocardiographic studies of same cases.

Joseph C. Bloodgood, Baltimore: Benign and malignant lesions of the oral cavity. Exhibit of mounted photographic plates.

Felix Baum, National Jewish Hospital, Denver: Radiology. Exhibit of roentgenograms dealing with (*a*) focal tuberculin reaction, (*b*) pneumoradiography of the tuberculous kidney, (*c*) apical tuberculosis.

Amédée Granger, New Orleans: New position for making roentgenograms of the mastoids. Exhibit illustrating method of making roentgenograms of the mastoids in Law, Arcelin, and new positions.

Preston M. Hickey, University Hospital, Ann Arbor, Mich.: Roentgen-ray studies of injected pathologic material. Exhibit will consist of roentgenograms of pathologic material, principally amputations, involving tumors, tuberculosis, etc., and demonstrates, by means of roentgenograms of the barium sulphate filled blood vessels, disturbances of the circulation.

Samuel Iglauer, George Benzing, Samuel Brown and H. Kennon Dunham, Cincinnati General Hospital, Cincinnati, and Warren C. Breidenbach, Dayton, Ohio: Injected iodized oils in the roentgen-ray diagnosis of tracheal and bronchopulmonary conditions. Exhibit of roentgen-ray films of the chest showing various lesions of the bronchi and lungs which can be demonstrated by injected iodized oils in the trachea; demonstration of two methods of introducing the oils.

Thomas O. Menees and L. E. Holly, Grand Rapids, Mich.: Roentgen-ray diagnosis of anencephaly. Exhibit of prints of roentgen-ray films showing anencephalic monsters before delivery, including both cranioschisis and craniorachischisis.

H. Leslie Moore, Dallas, Texas: Enlarged thymus. Exhibit of roentgen-ray films.

Sherwood Moore, Barnes Hospital, St. Louis: Cholecystography. Exhibit of mounted prints of cholecystograms, photographs and drawings relating to cholecystography.

Nelse F. Ockerblad, Kansas City, Mo.: Stricture of the ureter in males. Exhibit of transparency reductions from roentgen-ray plates.

Clinton K. Smith, Kansas City, Mo.: Postmortem ureteropyelographic study of infants and children. Exhibit of films with photographs of unusual pathologic specimens.

Charles E. Stewart, Battle Creek, Mich.: Roentgenograms of chest demonstrating iodized oil used in diagnosis and treatment. Exhibit of films and also microscopes for demonstrating cultures and blood specimens.

EXHIBIT ON CANCER BY SECTION ON DERMATOLOGY AND SYPHILOLOGY

The exhibit under the auspices of the Section on Dermatology and Syphilology will consist of numerous photographs illustrating not only the varying clinical appearances of cancer, particularly as applied to the skin, but other conditions that simulate cancer as applied to the skin, and must be diagnosed differentially. The various features will be grouped on the basis of making the exhibit educational and instructive to the general medical public. There will be numerous histologic sections, generally amplified by personal demonstration and employing the projecting microscope. In another section of the exhibit, the results of cancer research will be shown. The committee in charge is composed of Drs. I. L. McGlasson, Fred Weidman and E. D. Crutchfield.

M. F. Engman and W. H. Mook, St. Louis: Cancer of skin, diagnosis and treatment. Exhibit showing differential diagnosis with reference to tubercular syphilis.

Charles W. Finnerud, Chicago: Microscopic slides illustrating histopathology of cancer.

Herbert Fox, Philadelphia Zoological Gardens, Philadelphia: Cancer in wild animals. Exhibit of cancer in both mammals and birds; also photographs and photomicrographs.

Lewis Hurley, New York: Experimentally produced cancer in mice.

Everett S. Lain and Marion M. Roland, Oklahoma City: Cancer on the lip. Exhibit illustrating degrees of development and location. Classifications with regard to prognosis; illustrations of various technics used in treating with radium and roentgen rays.

George Miller McKee and Fred Wise, New York: Diagnosis and treatment of malignancies of the skin. Exhibit illustrating cancer problem, diagnosis and treatment, with pathologic exhibit.

I. L. McGlasson and C. F. Lehman, San Antonio: Diagnosis and prognosis of malanotic malignancies. Exhibit of melanotic sarcomas and nevoid growths that are potentially cancerous.

Howard Morrow, San Francisco: Diagnosis and treatment of cancer. Exhibit showing differential diagnosis with pathology and treatment.

William Allen Pusey, Chicago: Exhibit of photographs of cancer cases.

Bedford Shelmire, Dallas: Skin malignancies. Exhibit of photographs of various types of skin cancers.

Frances Carter Wood, New York: Exhibit of stock of inoculated rat tumors; also lumière plates dealing with cancer.

EDUCATIONAL EXHIBITS

American Association of Hospital Social Workers, Chicago: Exhibit of posters and charts showing what the Hospital Social Workers' organization is, type of work done by medical and psychiatric social workers in hospitals and clinics, and what is accomplished for the patients.

American Association for Medical Progress, New York: Experimental science and medical progress. Exhibit of charts and publications showing the work of the American Association for Medical Progress.

American Federation of Organizations for the Hard of Hearing, New York: Exhibit showing the work of the American Federation of Organizations for the Hard of Hearing. Charts, posters and literature bearing on the social work for the deafened in reference to (*a*) otologists, (*b*) general physician and the general public, (*c*) deafened people, and (*d*) social workers and educators.

American Heart Association, New York: Exhibit of charts, descriptive of the preventive problems, value of organized care, educational facilities and development dealing with heart disease as a public health problem.

American Social Hygiene Association, New York: Researches in the diagnosis and treatment of syphilis and gonococcal infection. Exhibit of pathologic specimens, both macroscopic and microscopic, bacterial cultures and slides, photographs, photomicrographs, statistical tables, new drugs, etc., illustrating important researches made at Johns Hopkins, University of Michigan, Harvard, Washington University, Rockefeller Institute and other colleges, concerning new methods of diagnosis and treatment of syphilis and gonorrhea.

American Society for the Control of Cancer, New York: Right and wrong in cancer. Exhibit of panels and charts dealing with a public health phase of cancer.

Pan S. Codellas, San Francisco: Oath of Hippocrates in original Greek. Exhibit of Littre version of the oath of Hippocrates, written in Greek script of the fourth to sixth century B. C. style.

Conference of Foreign Mission Boards of North America, New York: Medical missions. Exhibit of pictures, slides, posters, specimens, and books, descriptive of the work of medical missions in various countries.

Medical Society of the State of New York, New York: Work of the Committee on Public Health and Medical Education. Exhibits of maps and charts illustrating activities of the committee.

National Board of Medical Examiners, Philadelphia: Exhibit of charts and other material describing the work of the National Board of Medical Examiners.

Playground and Recreation Association of America, Chicago: Community recreation. Exhibit of photographs, charts, posters and printed matter.

United States Bureau of Mines, Department of Commerce, Washington and Pittsburgh: Exhibit will contain collection of harmful dusts and illustrate methods of and various appliances used in collecting dusts; also laboratory procedure, with actual apparatus for analyses, roentgen-ray plates and photographs showing the effect of harmful dusts.

United States Children's Bureau, Department of Labor, Washington, D. C.: Child hygiene. Exhibit of charts showing results of investigation of rickets among infants in New Haven, Conn., and Washington, D. C. Charts showing posture standards for use in classification and comparison of children of school age, with reference to posture; also charts showing causal factors and trends in infant and maternal mortality rates.

United States Pharmacopeial Convention (Board of Trustees), Washington, D. C.: Drugs and preparations of the Pharmacopeia of the United States of America, Tenth Revision. Exhibit will consist of selected vegetable and animal drugs and also chemicals which are now official in the new edition of the United States Pharmacopeia.

AMERICAN MEDICAL ASSOCIATION

Council on Pharmacy and Chemistry: Posters and specimens illustrating the efforts of the Council in the interests of scientific medicine and rational prescribing.

American Medical Association Chemical Laboratory: Posters and specimens bearing on such subjects as newer synthetics, comparative prices of proprietary and nonproprietary remedies and drug control.

Bureau of Investigation: Exhibit of: (1) a series of educational posters; (2) specimens of pamphlets published for the purpose of furnishing information easily and quickly to the public, and (3) the volumes of "Nostrums and Quackery."

Council on Medical Education and Hospitals: (1) Reliable information about medical education, licensure, reciprocity, hospitals, postgraduate courses and accredited internships. (2) Display of spot maps locating the hospitals in each county and town in the United States. (3) Pamphlet publications and statistical data on medical education and hospitals.

Bureau of Health and Public Instruction: Exhibit of (1) charts and posters on health education series, of infant welfare series and some of the prize posters of the *Hygeia* contest; (2) charts and pamphlets showing cooperative work of National Education Association and the bureau; (3) "Manual of Suggestions for the Conduct of Periodic Health Examinations" and the blanks prepared by the bureau for conduct of the examinations, to which particular attention will be called.

American Medical Association Library: Graphic demonstration by charts and posters of the various services rendered by the library to the individual physician and to the field of current medical literature. Exhibit of material illustrating the reference and bibliographic service, package library service, periodical lending service, indexing, etc.

Bureau of Legal Medicine and Legislation: Exhibit of posters showing the general scope of activities of the bureau; specimen inquiries answered by the bureau; and the result of efforts to secure a lower tax for physicians under the Harrison Narcotic Act; maps outlining the extent and results of the medical defense activities of the constituent associations in 1924, and a map showing the states that have enacted laws regulating the sale of lye and other caustic substances in packages suitable for household use.

MOTION PICTURE THEATER

The Motion Picture Theater will be located in the Manufacturers' Building immediately adjacent to the Scientific Exhibit. The Theater will open at noon on Monday and run continuously each day thereafter from 9 a. m. to 5:30 p. m., and until 4:30 on Friday. Each speaker will demonstrate the talk with either lantern slides or motion pictures.

Frank Billings, Chicago: Available, Simple and Feasible Methods of Approximate Functional Diagnosis in Chronic Nephritis. Illustrated with lantern slides.

George E. Brown, Rochester, Minn.: The Vascular Disturbances of the Extremities. Illustrated with lantern slides.

John R. Caulk, St. Louis: Progress in Kidney Surgery. Illustrated with lantern slides.

Arthur J. Cramp, Director, Bureau of Investigation, The Journal of the American Medical Association: (1) Aural Quackery and Pseudomedicine. (2) Medical Patents. Illustrated with lantern slides.

Henry A. Christian, Boston: Digitalis in Heart Disease Showing a Regular Pulse. Illustrated with lantern slides.

Carl Henry Davis, Milwaukee: Normal Labor and Eclampsia. Illustrated with motion pictures.

W. W. Duke, Kansas City, Mo.: A Story of Pollen Disease. Illustrated with lantern slides.

J. J. Durrett, Memphis, Tenn.: Tuberculosis. Illustrated with lantern slides.

E. C. Ellett, Memphis, Tenn.: The Pathologic Anatomy of Glaucoma. Illustrated with lantern slides.

J. Earl Else, Portland, Ore.: (1) A Usable Classification of Goiter. (2) Classification of Goiter Based on the Pathology with Congenital Findings. Illustrated with lantern slides.

Clark W. Finnerud, Chicago: Small-Spore Ringworm Infections (Microsporosis). Illustrated with motion pictures.

Harvey Fletcher, New York: Recent Research Work on Speech Audition. Illustrated with motion pictures.

A. I. Folsom, Dallas: Urologic Examination in Children. Illustrated with lantern slides.

J. P. Greenhill, Chicago: Advantages and Technic of the Cervical Cesarean Section. Illustrated with lantern slides.

Clifford G. Grulee, Chicago: Infant Feeding. Illustrated with lantern slides.

P. S. Hench, Rochester: The Mercury Combining Power of Blood and the Salivary Urea Index, Two New Simple Renal Function Tests. Illustrated with motion pictures.

Frank Hinman, San Francisco: Diagnostic Characteristics of Urogenital Diseases. Illustrated with lantern slides.

Chevalier Jackson, Philadelphia: Poisoning of Children by Household Lye: Bronchoscopy in the Treatment of Suppurative Diseases of the Lung. Illustrated with motion pictures and lantern slides.

Armin Klein, United States Children's Bureau, Washington, D. C.: Posture. Illustrated with motion pictures.

Herman L. Kretschmer, Chicago: Diagnostic Problems in Urology. Illustrated with lantern slides.

George M. McKee, New York: Pathologic Diagnosis and Treatment of Cancer of the Skin. Illustrated with lantern slides.

James S. McLester, Birmingham, Ala.: High Blood Pressure. Illustrated with lantern slides.

W. H. Mook, St. Louis, Mo.: Differential Diagnosis of Cancer and So-called Precancerous Lesions. Illustrated with lantern slides.

John Osborn Polak, Brooklyn: How the Pathology Determines the Election of Radium or Operation in Fibroid Tumors. Illustrated with lantern slides.

Stewart R. Roberts, Atlanta, Ga.: Diagnostic Problems of the Heart and Lungs. Illustrated with lantern slides.

Frank Smithies, Chicago: Circulatory Anomalies Leading to the Production of Peptic Ulcers. Illustrated with lantern slides.

P. P. Vinson and H. J. Moersch, Rochester, Minn.: Demonstration of Swallowing in Cardiospasm, the Method of Treatment and the Results Obtained. Illustrated with motion pictures.

Orrin S. Wightman, New York: Aneurysm of the Aorta with Demonstration of Gross and Microscopic Specimens. Illustrated with motion pictures.

Francis C. Wood, New York: Diagnosis of Cancer. Illustrated with lantern slides.

Hugh H. Young, Baltimore: Recent Advances in Antiseptics: Chemical Attack Against Local Infections. Illustrated with lantern slides.

American Social Hygiene Association, New York: (1) The Health Twins at Work; (2) Animated Blue Print and the General Arrangement for an Efficient Economical Clinic for the Treatment of Venereal Diseases. Motion picture films.

American Society for the Control of Cancer, New York: The Relation Between Practice and Theory in Cancer. Illustrated with motion pictures.

Metropolitan Life Insurance Company, New York: (1) Working for Dear Life. (2) No More Diphtheria. Motion picture film.

United States Bureau of Mines, Washington, D. C.: Principles of First Aid. Motion picture film.

United States Department of Agriculture: Motion Picture Film "Pasteur." This film is a gift from the French government to the United States.

United States Public Health Service: "The Science of Life." Motion picture film.

BROADCASTING A TEXAS TOUR

Wednesday evening, March 24, between 8 and 10 o'clock, station WBBM, the Stewart-Warner Station, Chicago, will broadcast a travelogue under the auspices of the Stewart-Warner Touring Bureau. The production will be entitled, "Gulf Coast Tour," and will cover the cities of Dallas, San Antonio, Houston, Galveston, New Orleans, Gulfport and Biloxi. The principal points of interest will be described by W. H. Spears, a travel authority. This travelogue is a part of the Stewart-Warner Touring Bureau service to motorists. Marked maps of the routes by automobile to Dallas from any point, together with descriptive literature, will be mailed free to readers of The Journal on application to the Touring Bureau, 1826 Diversey Parkway, Chicago.

GOLF SPECIAL

A golf special to the Dallas Session is being conducted this year under the direction of Dr. F. C. Warnshuis, Powers Theater Building, Grand Rapids, Mich. This train will leave Chicago on the Illinois Central Railroad, Sunday, April 11, at 6 p m. Stops will be made in Nashville, April 12; Biloxi, April 13; New Orleans, April 14; Galveston, April 15; San Antonio, April 16, arriving in Dallas, April 17, at 7:15 a. m. The cost of the trip is $215, which includes round trip from Chicago to Dallas and returning by any direct route through St. Louis or Kansas City. It includes also one-half a compartment for each person on the special train from Chicago to Dallas, all meals *en route* and green fees, caddy fees, automobile charges and tips.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

PROGRAM OF THE OPENING MEETING

Tuesday, April 20, 8:30 p. m.

Music.

Call to Order by the President, William D. Haggard, Nashville, Tenn.

Invocation. Rev. George W. Truett.

Announcements. E. H. Cary, Chairman, Local Committee of Arrangements.

Address of Welcome. Charles M. Rosser, President, State Medical Association of Texas

Address of Welcome. J. O. McReynolds, President, Dallas County Medical Society.

Music.

Introduction and Installation of President-Elect Wendell C. Phillips, New York.

Address. Wendell C. Phillips.

Music.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order that will be followed in the Official Program, nor is the list complete. The Official Program will be similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, as well as lists of committees, programs of the General Meeting, lists of entertainments, map of Dallas and other information. To prevent misunderstandings and to protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN AUDITORIUM, FAIR PARK

OFFICERS OF SECTION

Chairman—Eugene S. Kilgore, San Francisco.

Vice Chairman—Charles C. Bass, New Orleans.

Secretary—Bryce W. Fontaine, Memphis, Tenn.

Executive Committee—Joseph A. Capps, Chicago; Elliott P. Joslin, Boston; Eugene S. Kilgore, San Francisco.

Wednesday, April 21—2 p. m.

Diagnostic Criteria in Malignant Disease of the Upper Right Quadrant. M. L. Graves, Houston, Texas.
Discussion to be opened by Horace W. Soper, St. Louis, and Julius Friedenwald, Baltimore.

Chronic and Recurring Bronchitis Simulating Pulmonary Tuberculosis. Charles N. Meader, Denver.

Rheumatic Pneumonia (Lantern Demonstration).
Meyer A. Rabinowitz, Brooklyn.

Cancer of the Lungs, with Especial Reference to Increased Incidence Following Recent Influenza Epidemic (Lantern Demonstration).
John A. Lichty, F. R. Wright and E. A. Baumgartner, Clifton Springs, N. Y.
Discussion on Papers of Drs. Meader, Rabinowitz, and Lichty, Wright and Baumgartner to be opened by Paul H. Ringer, Asheville, N. C.; L. J. Moorman, Oklahoma City; Emanuel Libman, New York; John M. Blackford, Seattle; Felix Baum, Denver, and A. E. Greer, Houston, Texas.

Modern Practical Tests of Renal Function (Lantern Demonstration). P. S. Hench, Rochester, Minn.
Discussion to be opened by C. W. Dowden, West Baden, Ind., and L. P. Gay, St. Louis.

Classification and Treatment of Chronic Arthritis (Lantern Demonstration).
Russell L. Cecil and Benjamin H. Archer, New York.

The Use of *o*-Iodoxybenzoic Acid in the Treatment of Chronic Arthritis.
A. G. Young and J. B. Youmans, Ann Arbor, Mich.
Discussion on Papers of Drs. Cecil and Archer, and Young and Youmans to be opened by E. E. Irons, Chicago; Lloyd Thompson, Hot Springs, Ark., William Engelbach, St. Louis, and Ralph Pemberton, Philadelphia.

Thursday, April 22—2 p. m.

Chairman's Address: Precordial Pain.
Eugene S. Kilgore, San Francisco.

Subacute Bacterial Endocarditis.
W. L. Bierring, Des Moines, Iowa.

Chronic Pericarditis: A Discussion of the Clinical and Experimental Aspects. John H. Musser, New Orleans.

The Clinical Recognition of Pulsus Alternans (Lantern Demonstration). Roger S. Morris, Cincinnati.
Discussion on Papers of Drs. Kilgore, Bierring, Musser and Morris to be opened by Paul D. White, Boston; Willard J. Stone, Pasadena, Calif.; W. S. Thayer, Baltimore; Joseph L. Miller, Chicago; W. T. Swink, Memphis, Tenn.; K. H. Beall, Fort Worth, Texas; James S. McLester, Birmingham, Ala., and Randolph Lyons, New Orleans.

Measurement of Cardiac Overload.
John Walker Moore, Louisville, Ky.

Cardiac Asthma. Joseph H. Pratt, Boston.

Bedside Study of Air Hunger. Charles F. Hoover, Cleveland.
Discussion on Papers of Drs. Moore, Pratt and Hoover to be opened by G. Canby Robinson, Nashville, Tenn.; F. A. Willius, Rochester, Minn.; Stewart R. Roberts, Atlanta, Ga.; John Phillips, Cleveland; J. B. Guthrie, New Orleans, and M. D. Levy, Houston, Texas.

Friday, April 23—2 p. m.

Election of Officers

Pancreatic Diseases: Etiology and Clinical Findings, with Report of Cases (Lantern Demonstration).
Moses Barron, Minneapolis.

Cholecystography in Diabetes Mellitus (Lantern Demonstration)
M. K. Tedstrom, Corinth, Miss., and W. H. Olmsted, St. Louis.

Method of Following Treatment in Diabetes (Lantern Demonstration). Rollin T. Woodyatt, Chicago.
Discussion on Papers of Drs. Barron, Tedstrom and Olmsted, and Woodyatt to be opened by T. Homer Coffen, Portland, Ore.; Seale Harris, Birmingham, Ala.; A. L. Levin and I. I. Lemann, New Orleans; H. Rawle Geyelin, New York, and Lee Rice, San Antonio, Texas.

Circulatory Tonics versus Circulatory Depressants in Cardiovascular-Renal Disease, with Hypertension (Lantern Demonstration).
Clarence L. Andrews, Atlantic City.

The Use of Liver Extract in the Treatment of High Blood Pressure (Lantern Demonstration).
W. J. MacDonald, St. Catharines, Ontario, Canada.

Ultimate Results of Essential Hypertension (Lantern Demonstration). J. E. Paullin, Atlanta, Ga.
Discussion on Papers of Drs. Andrews, MacDonald and Paullin to be opened by R. W. Baird, Dallas, Texas; John B. Nichols, Washington, D. C.; John R. Williams, Rochester, N. Y.; Ralph H. Major, Kansas City, Mo.; Henry A. Christian, Boston, and E. Ghent Graves, Houston, Texas.

The Etiology and Treatment of Pernicious Anemia.
Lewellys F. Barker, Baltimore.
Discussion to be opened by Russell L. Haden, Kansas City, Mo.; Charles P. Emerson, Indianapolis, and Samuel A. Brown, New York.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Dallas B. Phemister, Chicago.
Vice Chairman—J. E. Sweet, Philadelphia.
Secretary—J. Tate Mason, Seattle.
Executive Committee—Urban Maes, New Orleans; Evarts A. Graham, St. Louis; Dallas B. Phemister, Chicago.

Wednesday, April 21—9 a. m.

Cauterization and Cautery Excision of Cancer: A Study of One Thousand Cases.
Arthur Carroll Scott, Jr., Temple, Texas.
Discussion to be opened by James F. Percy, Los Angeles.

Substernal Goiter (Lantern Demonstration).
Frank H. Lahey, Boston.

Recognition of the Toxic Patient Unsuited to Thyroidectomy (Lantern Demonstration).
Willard Bartlett, St. Louis.
Discussion on Papers of Drs. Lahey and Bartlett to be opened by A. Bennett Cooke, Los Angeles, and Arthur E. Hertzler, Halstead, Kan.

Sterilization of Local and General Infections by Intravenous Injection of Mercurochrome-220 Soluble; Experimental and Clinical Evidence (Lantern Demonstration).
Hugh H. Young, Baltimore.
Discussion to be opened by Dyer F. Talley, Birmingham, Ala., and F. G. Du Bose, Selma, Ala.

Ligation of the Aorta: A Clinical Experimental Study (Lantern Demonstration).
Barney Brooks, Nashville, Tenn.
Discussion to be opened by Rudolph Matas, New Orleans, and J. Shelton Horsley, Richmond, Va.

The Surgical Treatment of Pulmonary Suppuration (Lantern Demonstration).
Stuart W. Harrington, Rochester, Minn.
Discussion to be opened by Evarts A. Graham, St. Louis.

Surgical Aspects of Cleft Palate (Lantern Demonstration).
James E. Thompson, Galveston, Texas.

The Surgical Treatment of Cleft Palate: A New Operation Constructed from Parts of Many Old Operative Procedures (Lantern Demonstration).
George V. I. Brown, Milwaukee.
Discussion on Papers of Drs. Thompson and Brown to be opened by Vilray Papin Blair, St. Louis, and Gordon B. New, Rochester, Minn.

Thursday, April 22—9 a. m.

Election of Officers

Chairman's Address (Lantern Demonstration).
Dallas B. Phemister, Chicago.

Fractures of the Ankle Joint and of the Lower End of the Tibia and Fibula (Lantern Demonstration).
Edgar Lorrington Gilcreest, San Francisco.
Discussion to be opened by Willis Cohoon Campbell, Memphis, Tenn., and Isidore Cohn, New Orleans.

Results of Animal Experimentation with Osteoperiosteal Bone Grafts (Lantern Demonstration).
George Morris Dorrance, Philadelphia.
Discussion to be opened by William Thomas Coughlin, St. Louis.

The Diagnosis and Treatment of Benign and Early Malignant Lesions of Oral Cavity (Lantern Demonstration).
Joseph Colt Bloodgood, Baltimore.
Discussion to be opened by Albert Compton Broders, Rochester, Minn., and Arthur Carroll Scott, Sr., Temple, Texas.

Jejunostomy: A Clinical Review and Experimental Findings (Lantern Demonstration).
Thomas G. Orr and Russell Landram Haden, Kansas City, Mo.
Discussion to be opened by Hugh Nelson Page, Augusta, Ga., and J. Shelton Horsley, Richmond, Va.

Experimentally Produced Chronic Gastric Ulcer and Its Clinical Significance (Lantern Demonstration).
John Adams Wolfer, Chicago.
Discussion to be opened by Urban Maes, New Orleans, and E. Starr Judd, Rochester, Minn.

The Function of the Liver in Its Relation to Operations on the Gallbladder and Ducts (Lantern Demonstration).
George W. Crile, Cleveland.
Discussion to be opened by Philip K. Gilman, San Francisco, and A. S. Lobingier, Los Angeles.

The Interrelation of Lesions of the Liver, the Bone Marrow, and the Spleen.
William J. Mayo and Charles H. Mayo, Rochester, Minn.
Discussion to be opened by William D. Haggard, Nashville, and Jabez North Jackson, Kansas City, Mo.

Local Anesthesia as an Adjunct in the Treatment of Nontuberculous Lesions in Tuberculous Patients (Lantern Demonstration).
Stanley R. Maxeiner, Minneapolis.
Discussion to be opened by Francis Marion Pottenger, Monrovia, Calif., and Le Roy S. Peters, Albuquerque, N. M.

Friday, April 23—9 a. m.

JOINT MEETING OF SECTIONS ON SURGERY, GENERAL AND ABDOMINAL, AND ON NERVOUS AND MENTAL DISEASES

Definite Level Symptoms Suggesting Spinal Tumor: A Study of Thirty-Three Cases in Which Laminectomy Was Done (Lantern Demonstration).
Ernest Sachs, St. Louis.

SYMPOSIUM ON SYMPATHECTOMY

Physiology of the Sympathetic Nervous System in Relation to Certain Surgical Problems (Lantern Demonstration).
Alexander Forbes and Stanley Cobb, Boston.

Sympathectomy in Spasticities of the Extremities.
Loyal E. Davis and Allen B. Kanavel, Chicago.

Periarterial Sympathectomy.
Raymond W. McNealy, Chicago.

Sympathectomy in Angina Pectoris (Lantern Demonstration).
Elliott C. Cutler, Cleveland.

The Anatomy of the Sympathetic Nervous System (Lantern Demonstration).
S. W. Ranson, St. Louis.
Discussion on Papers of Drs. Forbes and Cobb, Davis and Kanavel, McNealy, Cutler and Ranson to be opened by Herbert E. Coe, Seattle; Charles S. Venable, San Antonio, Texas; Samuel Albert Levine, Boston; Samuel Clark Harvey, New Haven, Conn., and Philip King Brown, San Francisco.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—George Gray Ward, New York.
Vice Chairman—Emil Novak, Baltimore.
Secretary—Carl Henry Davis, Milwaukee.
Executive Committee—Frank W. Lynch, San Francisco; Rudolph W. Holmes, Chicago; George Gray Ward, New York.

Wednesday, April 21—2 p. m.

Erosion of the Cervix Uteri, with Observations on Its Causes, Its Development and Its End-Results (Lantern Demonstration).
Carey Culbertson, Chicago.

Chronic Endocervicitis: Its Etiology, Symptomatology and Secondary Pelvic Manifestations.
C. Jeff Miller, New Orleans.

The Sturmdorf Operation vs. the Cautery in the Treatment of Chronic Endocervicitis (Lantern Demonstration).
Harvey B. Matthews, Brooklyn.

Diathermy in the Treatment of Gonorrheal Endocervicitis.
B. C. Corbus and V. J. O'Conor, Chicago.

Cautery Treatment of Chronic Gonorrhea of the Cervix.
Harold W. Shutter, Milwaukee.

Syphilis of the Cervix (Lantern Demonstration).
George Gellhorn, St. Louis.

The Treatment of Cancer of the Uterine Cervix (Lantern Demonstration).
Grant E. Ward, Baltimore.

Five Year Results in Treatment of Cervical Cancer (Lantern Demonstration).
Frank W. Lynch, San Francisco.
Discussion on Papers of Drs. Culbertson, Miller, Matthews, Corbus and O'Conor, Shutter, Gellhorn, Ward and Lynch to be opened by Arthur H. Curtis, Chicago.

Thursday, April 22—2 p. m.

The Umbilical Cord (Lantern Demonstration).
Norris W. Vaux, Philadelphia.

Sterility: Analysis of Cures and Failures (Lantern Demonstration).
R. L. Dickinson, New York, and William H. Cary, Brooklyn

Low Calcium as a Cause of Intra-Uterine Mortality.
Donald Macomber, Boston.

Chairman's Address. George Gray Ward, New York.

Retrodisplacement in Pregnancy and the Puerperium: A Study of One Thousand Private Cases (Lantern Demonstration).
W. C. Danforth and C. E. Galloway, Evanston, Ill.

Morbidity in One Thousand Postpuerperal Women: A Statistical Presentation
Harold A. Miller, Pittsburgh.

Observations on Thyroid Hypertrophy and Pregnancy (Lantern Demonstration).
Carl Henry Davis, Milwaukee.

Pregnancy Complicating Exophthalmic Goiter and Adenomatous Goiter with Hyperthyroidism (Lantern Demonstration).
Robert D. Mussey, William A. Plummer and Walter M. Boothby, Rochester, Minn.

Friday, April 23—2 p. m.

Election of Officers

Tuberculosis of the Lower Ileum (Lantern Demonstration).
J Earle Else, Portland, Ore.

Clinical Tests of the Ovarian Follicular Hormone (Lantern Demonstration).
J. P Pratt, Detroit, and Edgar Allen, Columbia, Mo.

Myomectomy, Hysterectomy and Radium in the Treatment of Uterine Fibromyomas.
James C. Masson, Rochester, Minn.
Discussion to be opened by W. J. Mayo, Rochester, Minn

Toxemias of Pregnancy: General Considerations.
John O. Polak, Brooklyn.

Eclampsia at the Chicago Lying-In Hospital (Lantern Demonstration). J. P. Greenhill, Chicago.

Eight Hundred and Fifty Cases of Toxemia with Convulsions at the New York Lying-In Hospital.
Asa B. Davis, New York.

Magnesium Sulphate in the Treatment of Preeclampsia and Eclampsia.
Lyle G. McNeile and John Vruwink, Los Angeles.

SECTION ON OPHTHALMOLOGY

MEETS IN FINE ARTS BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Arnold Knapp, New York.
Vice Chairman—Harry Friedenwald, Baltimore.
Secretary—William C. Finnoff, Denver.
Executive Committee—George S. Derby, Boston; Marcus Feingold,* New Orleans; Arnold Knapp, New York.

Fellows are reminded that the meetings of the section will be called to order promptly on the hour scheduled for opening. The formal reading of the papers will be omitted, as reprints of the papers on the program have already been delivered to Fellows.

Each essayist will be given ten minutes in which to summarize the points in his paper and introduce the discussion (except in the case of five minute papers), and five minutes in which to close the discussion.

The Fellows appointed to open the discussion of any paper will be allowed ten minutes. Subsequent speakers will be limited to five minutes.

The papers and all discussions will be printed and bound, forming the Transactions of the Section on Ophthalmology for 1926. Copies of the Transactions may be obtained at $1.50 each, if subscriptions are sent to The Journal of the American Medical Association, 535 North Dearborn Street, Chicago, by June 1, as only enough copies are printed to cover subscriptions received to the time of going to press.

Fellows are requested to register in the section registration book at the entrance. The full name and complete post-office address should be written plainly.

Wednesday, April 21—9 a. m.

Chairman's Address. Arnold Knapp, New York.

Recurrence of Iritis as Influenced by the Removal of Infections.
E. V. L. Brown and Ernest E. Irons, Chicago.
Discussion to be opened by George S. Derby, Boston.

The Prostate as a Remote Focus of Infection in Ocular Inflammations. William Zentmayer, Philadelphia.
Discussion to be opened by John O. McReynolds, Dallas, Texas.

Ocular Disease Occurring in the Course of Nondysenteric Amebiasis. Lloyd Mills, Los Angeles.
Discussion to be opened by G. W. Jean, Santa Barbara, Calif.

Sympathetic Uveitis Caused by the Virus of Herpes Simplex: Report of Experiments (Lantern Demonstration).
S. R. Gifford, Omaha.
Discussion to be opened by Everett L. Goar, Houston, Texas.

Retrobulbar Neuritis in Diabetes: Report of Case.
Lee Masten Francis and Ivan Koenig, Buffalo.
Discussion to be opened by D. F. Harbridge, Phoenix, Ariz.

An Ophthalmic Year Book, Why and How.
William H. Crisp, Denver.
Discussion to be opened by Charles P. Small, Chicago.

Ocular Symptoms in Subarachnoid Hemorrhage: A Clinical Consideration (Lantern Demonstration).
F. Phinizy Calhoun, Atlanta, Ga.
Discussion to be opened by Edwin G. Zabriskie, New York.

Thursday, April 22—9 a. m.

Radium in Ophthalmology: A Further Study, Experimental and Clinical (Lantern Demonstration).
Laura A. Lane, Baltimore.
Discussion to be opened by Sanford M. Withers, Denver.

The Aqueous Humor: A Critical and Experimental Study (Lantern Demonstration).
Arthur M. Yudkin, New Haven, Conn.
Discussion to be opened by Lawrence T. Post, St. Louis.

Intra-Ocular Sarcoma in Children: A Clinical and Pathologic Study of Ten Cases.
Walter R. Parker, Detroit, and William H. Stokes, Dallas, Texas.
Discussion to be opened by Henry C. Haden, Houston, Texas.

Retinoblastoma and Recent Views of Malignancy.
Edward Jackson, Denver.
Discussion to be opened by W. G. Gillett, Wichita, Kan

Refractive Changes. E. C. Ellett, Memphis, Tenn.
Discussion to be opened by T. B. Holloway, Philadelphia.

Blepharochalasis: Report of Three Cases (Lantern Demonstration). W. L. Benedict, Rochester, Minn.
Discussion to be opened by Conrad Berens, Jr., New York.

Closure of the Retinal Vessels: Important Aspects in Diagnosis and Management that May Be Overlooked.
L. Herbert Lanier, Texarkana, Ark.
Discussion to be opened by J. M. Woodson, Temple, Texas.

Friday, April 23—9 a. m.

Election of Officers

Mucous Membrane from the Middle Turbinate in Plastic Surgery of the Eye. Meyer Wiener, St. Louis.
Discussion to be opened by William H. Wilder, Chicago.

The Effect of Viewing Motion Pictures on Visual Acuity: Preliminary Report.
A. Ray Irvine and M. F. Weymann, Los Angeles.
Discussion to be opened by Charles A. Bahn, New Orleans.

The Tolerance of Foreign Bodies Within the Eye.
A. E. Bulson, Jr., Fort Wayne, Ind.
Discussion to be opened by Ancil Martin, Phoenix, Ariz.

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* Deceased.

Roentgenologic Investigation on Four Hundred Optic Canals in the Living: Clinical and Anatomic Data.
Harry A. Goalwin, New York.
Discussion to be opened by Harry S. Gradle, Chicago.

The Anterior Lens Capsule: A Clinical and Pathologic Study (Lantern Demonstration).
Arthur J. Bedell, Albany, N. Y.
Discussion to be opened by W. B. Lancaster, Boston.

Safeguards in Cataract Expression (Lantern Demonstration).
John Green, St. Louis.
Discussion to be opened by Clarence King, Cincinnati.

Color Blindness in Industry (Lantern Demonstration).
Archibald E. Chace, Texarkana, Ark.
Discussion to be opened by J. E. Jennings, St. Louis.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN FINE ARTS BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Samuel Iglauer, Cincinnati.

Vice Chairman—Horace Newhart, Minneapolis.

Secretary—William V. Mullin, Cleveland.

Executive Committee—Wendell C. Phillips, New York; Charles W. Richardson, Washington, D. C.; Samuel Iglauer, Cincinnati.

Wednesday, April 21—2 p. m.

Chairman's Address (Lantern Demonstration).
Samuel Iglauer, Cincinnati.

Otolaryngology in General Diseases: Clinical Application of the Experimental Findings in Diseases of Metabolism.
Fenton B. Turck, New York.
Discussion to be opened by Edward H. Cary, Dallas, Texas, and Burt R. Shurly, Detroit.

Maxillary Deformations (Lantern Demonstration).
Harvey Stallard, San Diego, Calif.
Discussion to be opened by Frank Albert Burton, San Diego, Calif., and Thomas E. Carmody, Denver.

The Surgical Treatment of Acute Suppurative Paranasal Sinusitis (Lantern Demonstration).
John J. Shea, Memphis, Tenn.
Discussion to be opened by R. C. Lynch, New Orleans, and Ross H. Skillern, Philadelphia.

Further Report on the Operative Treatment of Selected Cases of Chronic Peripheral Facial Paralysis (Lantern Demonstration).
William Sharpe, New York.
Discussion to be opened by Joseph C. Beck, Chicago.

Vertigo: Its Incidence in Endocrine Disorders.
Dana W. Drury, Boston.
Discussion to be opened by William Engelbach, St. Louis, and Eugene R. Lewis, Los Angeles.

Importance of the Early Diagnosis and Treatment of Laryngeal Tuberculosis (Lantern Demonstration).
Frank R. Spencer, Boulder, Colo.
Discussion to be opened by Henry H. Briggs, Asheville, N. C., and Julius Dworetzky, Liberty, N. Y.

Thursday, April 22—2 p. m.

Displacement Irrigation: A New Procedure in the Diagnosis and Conservative Treatment of Posterior Sinus Disease (Lantern Demonstration).
Arthur W. Proetz, St. Louis.
Discussion to be opened by George M. Coates, Philadelphia, and Louis Levy, Memphis, Tenn.

Two Factors in Catarrhal Deafness: The Lower Turbinate (Technic) and the Sphenoid Sinus (Anatomy) (Lantern Demonstration).
Greenfield Sluder, St. Louis.
Discussion to be opened by George E. Shambaugh, Chicago, and L. W. Dean, Iowa City.

Surgical Treatment of Meningitis from Aural Origin (Lantern Demonstration).
Wells P. Eagleton, Newark, N. J.
Discussion to be opened by E. R. Carpenter, Dallas, and C. F. Yerger, Chicago.

Sinus and Jugular Thrombosis (Bilateral) Bilateral Ligation; Recovery: Report of Case.
Hill Hastings, Los Angeles.
Discussion to be opened by George L. Tobey, Boston, and R. Bishop Canfield, Ann Arbor, Mich.

The Diagnostic Ear Clinic in the Public Schools as a Factor in the Conservation of Hearing (Lantern Demonstration).
Horace Newhart, Minneapolis.
Discussion to be opened by C. W. Richardson, Washington, D. C., and Austin A. Hayden, Chicago.

Three Million Deafened School Children: Methods for Their Detection and Treatment.
E. P. Fowler and Harvey Fletcher, New York.
Discussion to be opened by Harold M. Hays, New York, and George L. Richards, Fall River, Mass.

Friday, April 23—2 p. m.

Election of Officers

Exhibition of New Instruments and Appliances

Reports of Committees

Necrology.
William B. Chamberlin, Cleveland, Chairman; Thomas J. Harris, New York; George L. Richards, Fall River, Mass.

Lye Legislation.
Chevalier Jackson, Philadelphia, Chairman; M. F. Arbuckle, St. Louis; J. F. Barnhill, Indianapolis; Nelson M. Black, Milwaukee; Chester H. Bowers, Los Angeles; H. H. Briggs, Asheville, N. C.; Edmund T. Brown, Burlington, Vt.; Thomas E. Carmody, Denver; William B. Chamberlin, Cleveland; E. Frank Chase, Seattle; Lee W. Dean, Iowa City; W. E. Dixon, Oklahoma City; J. Alexander Donovan, Butte, Mont.; Wells P. Eagleton, Newark, N. J.; J. A. Ellegood, Wilmington, Del.; F. P. Emerson, Boston; Ralph A. Fenton, Portland, Ore.; Henry Hall Forbes, New York; J. Andre Fuller, Reno, Nev.; Theron E. Fuller, Texarkana, Ark.; John B. Gregg, Sioux Falls, S. D.; Thomas H. Halsted, Syracuse, N. Y.; Austin A. Hayden, Chicago; Ewing Fox Howard, Vicksburg, Miss.; Samuel Iglauer, Cincinnati; C. J. Imperatori, New York; J. W. Jervey, Greenville, S. C.; F. E. Kittredge, Nashua, N. H.; James W. Leech, Providence, R. I.; Robert C. Lynch, New Orleans; Edward C. Matthews, Albuquerque, N. M.; H. W. Loeb, St. Louis; Richmond McKinney, Memphis, Tenn.; John J. McLoone, Phoenix, Ariz.; Clifton M. Miller, Richmond, Va.; T. W. Moore, Huntington, W. Va.; Horace Newhart, Minneapolis; Robert L. Nourse, Boise; H. B. Orton, Newark, N. J.; Ellen J. Patterson, Pittsburgh; Charles W. Richardson, Washington, D. C.; John C. Robison, Salt Lake City; Dunbar Roy, Atlanta, Ga.; Moses Savage, Baltimore; L. A. Schipfer, Bismarck, N. D.; Burt R. Shurly, Detroit; Greenfield Sluder, St. Louis; E. Terry Smith, Hartford, Conn.; George L. Strader, Cheyenne, Wyo.; J. A. Stucky, Lexington, Ky.; Ernest M. Seydell, Wichita, Kan.; H. Marshall Taylor, Jacksonville, Fla.; C. A. Thigpen, Montgomery, Ala.; Cullen F. Welty, San Francisco; W. P. Wherry, Omaha; Waitman F. Zinn, Baltimore; John O. McReynolds, Dallas, Texas.

Examining Board in Otolaryngology.
Joseph C. Beck, Chicago, Chairman; Robert C. Lynch, New Orleans.

Otorhinologic Hygiene of Swimming.
H. M. Taylor, Jacksonville, Fla., Chairman; Ralph A. Fenton, Portland, Ore.; Hill Hastings, Los Angeles; M. F. Arbuckle, St. Louis; Lee M. Hurd, New York.

Joint Committee and Permanent Committee of the Deaf Child and Adult Deaf.
Charles W. Richardson, Washington, D. C., Chairman; Max A. Goldstein, St. Louis; Thomas J. Harris, New York; E. L. Kenyon, Chicago; J. A. Stucky, Lexington, Ky.; Harold Walker, Boston; Horace Newhart, Minneapolis; Isaac H. Jones, Los Angeles.

Sand Burs in the Larynx: Report of Cases (Lantern Demonstration).
George F. Keiper, La Fayette, Ind.
Discussion to be opened by H. Marshall Taylor, Jacksonville, Fla., and Chevalier Jackson, Philadelphia.

Hysterical Dysphagia.
Herman J. Moersch, Rochester, Minn.
Discussion to be opened by Gabriel F. Tucker, Philadelphia; John B. Potts, Omaha, and Merwin C. Myerson, Brooklyn.

The Thymus Gland (Lantern Demonstration).
William W. Wasson, Denver.
Discussion to be opened by Harris P. Mosher, Boston.

Indications for Tonsillectomy in Children Based on End-Results (Lantern Demonstration).
Albert D. Kaiser, Rochester, N. Y.

Surgical Study of Eight Thousand Tonsillectomies in Children. Edwin S. Ingersoll, Rochester N. Y.
Discussion on Papers of Drs. Kaiser and Ingersoll to be opened by Hugh McCulloch, St. Louis, and Roy A. Barlow, Madison, Wis.

Postoperative Results of Tonsil Operations, a Questionnaire Report. F. J. Pratt, Minneapolis.
Discussion to be opened by Sam E. Roberts, Kansas City, Mo., and William Mithoefer, Cincinnati.

SECTION ON DISEASES OF CHILDREN

MEETS IN AUDITORIUM, FAIR PARK

OFFICERS OF SECTION

Chairman—Clifford G. Grulee, Chicago.
Vice Chairman—Leslie Moore, Dallas, Texas.
Secretary—Hugh McCulloch, St Louis.
Executive Committee—Henry F. Helmholz, Rochester, Minn.; Edgar J. Huenekens, Minneapolis; Clifford G. Grulee, Chicago.

Wednesday, April 21—9 a. m.

Chairman's Address. Clifford G. Grulee, Chicago.

Address. A. Aballi, Havana, Cuba.

The Breast Feeding Demonstration and the Physician.
F. H. Richardson, Brooklyn.

Breast Feeding Problems (Lantern Demonstration).
C. Ulysses Moore, Portland, Ore.
Discussion to be opened by E. J. Huenekens, Minneapolis.

Effects of Diet During Pregnancy on the Development of Rickets in the Offspring (Lantern Demonstration).
J. Victor Greenbaum, Cincinnati.

The Plasma Proteins in Orthostatic Albuminuria (Lantern Demonstration). F. W. Schlutz, Minneapolis.
Discussion to be opened by L. R. De Buys, New Orleans, and H. F. Helmholz, Rochester, Minn.

Exophthalmic Goiter in Childhood (Lantern Demonstration).
Henry Helmholz, Rochester, Minn.

The Clinical Study of the Therapy of Pyloric Stenosis in Infants (Lantern Demonstration).
V. David Greer, Houston, Texas.
Discussion to be opened by H. Leslie Moore, Dallas, Texas, and H. F. Helmholz, Rochester, Minn.

Thursday, April 22—9 a. m.

SYMPOSIUM ON CHRONIC NONSPECIFIC INFECTIONS OF THE LUNGS AND BRONCHI

General Introduction and Diagnosis (Lantern Demonstration). John Lovett Morse, Boston.

Relationship to Infection in Upper Respiratory Area (Lantern Demonstration).
William V. Mullin, Cleveland.

Bronchoscopic Phases of Chronic Nonspecific Infections in the Lung (Lantern Demonstration).
Chevalier Jackson, Philadelphia.

Medical Treatment. Joseph Brenneman, Chicago.

Surgical Treatment (Lantern Demonstration).
Evarts A. Graham, St. Louis.

Friday, April 23—9 a. m.

Election of Officers

Address.
Leon Velasco Blanco, Buenos Aires, Argentina.

Twenty-Five Years of Congenital Syphilis: A Comparative and Statistical Study (Lantern Demonstration).
P. H. Sylvester, Boston.
Discussion to be opened by P. C. Jeans, Iowa City.

Meckel's Diverticulum as a Cause of Intestinal Hemorrhage: Report of Five Cases.
Isaac A. Abt and Alfred A. Strauss, Chicago.

The Prevention of Rickets in Premature Infants (Lantern Demonstration). H. J. Gerstenberger, Cleveland.

The End-Results of Specific Serum Therapy in Sporadic Meningococcus Meningitis in Infancy and Early Childhood (Lantern Demonstration).
Stafford McLean, New York.

Paranasal Sinusitis as a Cause of So-Called Alimentary Intoxication (Lantern Demonstration).
P. C. Jeans and M. L. Floyd, Iowa City.
Discussion to be opened by M. F. Arbuckle, St. Louis, and E. C. Mitchell, Memphis, Tenn.

Osteomyelitis Variolosa (Lantern Demonstration).
E. J. Huenekens and L. C. Rigler, Minneapolis.
Discussion to be opened by W. L. Brown, El Paso, Texas.

The Use of Standard Diet Formulas in the Management of Juvenile Diabetes Mellitus (Lantern Demonstration).
J. D. Boyd, Iowa City.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Thomas Ordway, Albany, N. Y.
Vice Chairman—W. De B. MacNider, Chapel Hill, N. C.
Secretary—Norman M. Keith, Rochester, Minn.
Executive Committee—Paul J. Hanzlik, San Francisco; Paul D. White, Boston; Thomas Ordway, Albany, N. Y.

Wednesday, April 21—9 a. m.

SYMPOSIUM ON CARDIOVASCULAR HYPERTENSIVE DISEASE AND ITS TREATMENT

Measurement of the Cardiac Output and Its Variations (Lantern Demonstration).
G. Canby Robinson, Nashville, Tenn.

The Antipressor Fraction in Liver Tissue, and Its Physiologic Action.
A. A. James, N. B. Laughton and A. Bruce Macallum, London, Ontario, Canada.

The Action of Hepatic Extract in Hypertension (Lantern Demonstration).
Ralph H. Major, Kansas City, Mo.

Treatment of the Peripheral Vascular Disturbances of the Extremities. George E. Brown, Rochester, Minn.

The Visceral Manifestations of Diffuse Cardiovascular Hypertensive Disease. Joseph L. Miller, Chicago.

Thursday, April 22—9 a. m.

Chairman's Address. Thomas Ordway, Albany, N. Y.

The Therapeutic Value of the Parathyroid Hormone (Lantern Demonstration).
J. B. Collip, Edmonton, Alberta, Canada.

Protein Requirement in Children (Lantern Demonstration).
Walter M. Bartlett, Boston.

The Action and Clinical Use of Ephedrine, an Alkaloid Isolated from the Chinese Drug MaHuang (Lantern Demonstration). K. K. Chen, Madison, Wis.

The Inefficiency of Most Commonly Used Antiseptics in Medicine and Surgery.
Martin B. Tinker and Henry B. Sutton, Ithaca, N. Y.

Chronic Hereditary and Familial Hemolytic Jaundice with Splenomegaly and Hepatomegaly (Lantern Demonstration). Walton Forest Dutton, Amarillo, Texas.

Friday, April 23—9 a. m.

Election of Officers

Thyroid Therapy and Thyroid Tolerance in Chronic Nephrosis.
Albert A. Epstein, New York.

The Use and Abuse of Heliotherapy in Tuberculosis.
Samuel H. Watson, Tucson, Ariz.
Discussion to be opened by E. H. Bruns, Denver.

The Treatment of Polycythemia Vera (Lantern Demonstration). H. Z. Giffin, Rochester, Minn.

Action of Euphyllin in Cardiac Failure Associated with Arteriosclerosis.
Fred M. Smith, Verne C. Graber and George H. Miller, Iowa City.

Arachnidism, a Study in Spider Poisoning.
Emil Bogen, Los Angeles.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Harry J. Corper, Denver.
Vice Chairman—R. G. Hoskins, Columbus, Ohio.
Secretary—Josiah J. Moore, Chicago.
Executive Committee—Kenneth M. Lynch, Dallas, Texas; Charles W. Greene, Columbia, Mo.; Harry J. Corper, Denver.

Wednesday, April 21—2 p. m.

Symptoms and Lesions of Avitaminosis (Keratomalacia and Beriberi) Occurring During the Course of Diabetes (Lantern Demonstration).
Michael G. Wohl, Omaha.

Localization in Animals of Bacteria Isolated from Foci of Infection. A. C. Nickel, Rochester, Minn.

The Etiology and Pathology of Arthritis Deformans as Forecast by Clinical Manifestations.
John V. Barrow, Los Angeles.

Estimating Blood Volume for Clinical Purposes: A Simple, Practical Method.
William W. Duke, Kansas City, Mo.

Menace of the Doubtful Positive Wassermann Reaction.
James Herbert Mitchell, Chicago.

Conduction and Contraction of Cardiac Musculature in Water Rigor. Clyde Brooks, University, Ala.

Evidences of Diseases as Shown in Fossil and Prehistoric Remains; Paleopathology.
Frank B. Young, Gering, Neb., and A. L. Cooper, Scottsbluff, Neb.

Thursday, April 22—2 p. m.

Chairman's Address: Absorption from Lower Respiratory Tract. Harry J. Corper, Denver.

Aspergillosis of the Lungs and Its Association with Tuberculosis. Mary E. Lapham, Highlands, N. C.

Specific Necrosis in the Infectious Granulomas (Lantern Demonstration). Esmond R. Long, Chicago.

Mutation Forms of the Tubercle Bacillus.
Henry C. Sweany, Chicago.

The Importance of Symbiosis or Close Association of Different Species of Organisms in the Production of Certain Biochemical Phenomena and in the Causation of Certain Diseases and Certain Symptoms of Disease.
Aldo Castellani, New Orleans.

A Study of Granuloma Inguinale (Lantern Demonstration).
J. A. McIntosh, Memphis, Tenn.

Friday, April 23—2 p. m.

Election of Officers

Functional Studies Throughout the Course of Roentgen-Ray Nephritis in Dogs.
F. W. Hartman and Adolph Bolliger, Detroit.

Effect of Quinine on Hemolysis in Vitro with Especial Reference to Malarial Hemoglobinuria.
C. C. Bass, New Orleans.

The Use of Colloidal Lead in the Treatment of Cancer.
Francis Carter Wood, New York.

Grading of Carcinoma and Its Practical Application.
Albert C. Broders, Rochester, Minn.

The Personal Equation in the Cancer Problem.
George A Soper, New York.

Functional Studies in Cavernous Sinus Thrombosis as a Guide to Diagnosis, Prognosis and Treatment (Lantern Demonstration).
O. Jason Dixon, Kansas City, Mo.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—James B. Ayer, Boston.
Vice Chairman—William House, Portland, Ore.
Secretary—Lewis J. Pollock, Chicago.
Executive Committee—Walter F. Schaller, San Francisco; Edwin G. Zabriskie, New York; James B. Ayer, Boston.

Wednesday, April 21—9 a. m.

Chairman's Address. James B. Ayer, Boston.

The Connotation of Constitutional Psychopathic Inferiority Without Psychoses: A Study of Five Hundred Diagnoses. James H. Huddleson, New York.

Neuropsychiatric Sequelae of Chorea in Children.
Franklin G. Ebaugh, Denver.

The Social and Economic Aspects of Nervous and Mental Disease Theodore Diller, Pittsburgh.

Cardiac Symptoms in Emotional Conflicts.
Sidney I. Schwab, St. Louis.

Some Infantile Factors in the Etiology of Hysteria.
M. S. Gregory, Oklahoma City.

Thursday, April 22—9 a. m.

Election of Officers

Glioma of the Pons Varolii Simulating a Frontomotor Growth (Lantern Demonstration)
Tom B. Throckmorton, Des Moines, Iowa.

An Unusual Case of Subacute Combined Cord Degeneration.
Walter F. Schaller, San Francisco.

Neurologic Manifestations in Pernicious Anemia · A New Conception Relative to Etiology (Lantern Demonstration). A. L. Skoog, Kansas City, Mo.

Aneurysms of the Cerebral Vessels: The Clinical Manifestations and Pathology (Lantern Demonstration).
Harry L. Parker, Rochester, Minn.

Secondary Tumors of the Brain.
Walter D Shelden, Rochester, Minn

The Use of Lipiodol for the Diagnosing of Intraspinal Lesions: Report of Six Cases
Julian M. Wolfsohn, San Francisco.

Friday, April 23—9 a. m.

JOINT MEETING OF SECTIONS ON SURGERY, GENERAL AND ABDOMINAL, AND ON NERVOUS AND MENTAL DISEASES

Definite Level Symptoms Suggesting Spinal Tumor: A Study of Thirty-Three Cases in Which Laminectomy Was Done (Lantern Demonstration).
Ernest Sachs, St. Louis.

SYMPOSIUM ON SYMPATHECTOMY

Physiology of the Sympathetic Nervous System in Relation to Certain Surgical Problems (Lantern Demonstration).
Alexander Forbes and Stanley Cobb, Boston

Sympathectomy in Spasticities of the Extremities
Loyal E. Davis and Allen B. Kanavel, Chicago.

Periarterial Sympathectomy.
Raymond W. McNealy, Chicago.

Sympathectomy in Angina Pectoris (Lantern Demonstration).
Elliott C. Cutler, Cleveland

The Anatomy of the Sympathetic Nervous System (Lantern Demonstration). S. W. Ranson, St. Louis.

Discussion on Papers of Drs Forbes and Cobb, Davis and Kanavel, McNealy, Cutler and Ranson to be opened by Herbert E. Coe, Seattle; Charles S. Venable, San Antonio, Texas; Samuel Albert Levine, Boston; Samuel Clark Harvey, New Haven, Conn., and Philip King Brown, San Francisco.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Fred Wise, New York.
Vice Chairman—W. L. McBride, Kansas City, Mo.
Secretary—James Herbert Mitchell, Chicago
Executive Committee—Harold N. Cole, Cleveland; John E. Lane, New Haven, Conn.; Fred Wise, New York.

Wednesday, April 21—9 a. m.

Chairman's Address. Fred Wise, New York.

The Use of Malaria Infection in the Treatment of Syphilis of the Central Nervous System
J. R. Driver, John A. Gammel and L. J. Karnosh, Cleveland.

Clinical Notes on the Incidence and Treatment of Interstitial Keratitis in Congenital Syphilis.
W. H. Guy, Pittsburgh.

Further Observations on the Rose Bengal Test for Liver Function, with Particular Reference to Its Use in Therapy of Syphilis (Lantern Demonstration).
N. N. Epstein and J. E. Rauschkolb, Cleveland.

Intravenous Injection of Sodium Iodide in Phagedenic Ulcerations. Jerome Kingsbury, New York.

An Efficient Treatment of Chancroidal Buboes: Injections of Mencière's Solution (Lantern Demonstration).
H. G. Miskjian, Cleveland.

Granuloma Inguinale: Its Prevalence in the United States (Lantern Demonstration). Howard Fox, New York.

Thursday, April 22—9 a. m.

Critical Investigation of the Relation of Metabolic End-Products (Uric Acid, Urea, Creatinin) to Eczema and Kindred Disorders.
Jeffrey C. Michael, Houston, Texas.

Roentgen-Ray Idiosyncrasy.
George M. MacKee and J. J. Eller, New York.

A Distinctive and Severe Form of Erysipeloid Among Fish Handlers.
Joseph V. Klauder and M. J. Harkins, Philadelphia.

Recurrent Erysipelas: Report of Cases.
I. L. McGlasson, San Antonio.

Sporotrichosis, an Occupational Dermatosis.
O. H. Foerster and Harry R. Foerster, Milwaukee.

Friday, April 23—9 a. m.

Election of Officers

Ichthyosiform Erythroderma: Report of Two Cases (Lantern Demonstration).
W. H. Goeckerman, Rochester, Minn.

Calcification of the Epiderm and Other Structures of the Skin in Connection with Widespread Bone Resorption (Lantern Demonstration).
Fred D. Weidman, Philadelphia, and Loren W. Shaffer, Detroit.

Some Aspects of Skin Histopathology.
Walter J. Highman, New York.

The Juvenile Type of Acanthosis Nigricans (Lantern Demonstration). L. M. Wieder, Ann Arbor, Mich.

Colloid Degeneration of the Skin: Report of Case.
Kendall Frost, Los Angeles.

Granulosis Rubra Nasi (Jadassohn): Report of Case (Lantern Demonstration). B. Barker Beeson, Chicago.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Matthias Nicoll, Jr., Albany, N. Y.
Vice Chairman—Herman N. Bundesen, Chicago.
Secretary—W. F. Draper, Washington, D. C.
Executive Committee—W. S. Leathers, Nashville, Tenn.; Oscar Dowling, Shreveport, La.; Matthias Nicoll, Jr., Albany, N. Y.

Wednesday, April 21—2 p. m.

Some Problems in Southern Municipal Health Work.
J. J. Durrett, Memphis, Tenn.

Chairman's Address: Boundaries of the Public Health Field.
Matthias Nicoll, Jr., Albany, N. Y.

The County Health Department, the County Physician, and the Community.
H. S. Mustard, Murfreesboro, Tenn.

The Sanitary Officer and County Health Work.
E. L. Bishop, Nashville, Tenn.
Discussion to be opened by W. S. Leathers, Nashville, Tenn.

Rural Sanitation. P. W. Covington, Salt Lake City.
Discussion to be opened by A. T. McCormack, Louisville, Ky., and D. T. Bowden, Oklahoma City.

Thursday, April 22—2 p. m.

Public Health Aspects of Quackery.
James Stewart, Jefferson City, Mo.

The Trend of Public Health Work: Is It Eugenic or Dysgenic? Mazyck P. Ravenel, Columbia, Mo.
Discussion to be opened by John A. Ferrell, New York.

Relationship of the practicing Physician to the Public Health Program. G. S. Luckett, Santa Fe, N. M.
Discussion to be opened by S. W. Welch, Montgomery, Ala.

The Family Physician's Place in Inspection of School Children. Mary Evelyn Brydon, Richmond, Va.
Discussion to be opened by F. J. Underwood, Jackson, Miss.

Every State in the Registration Area Before 1930.
Wilmer R. Batt, Washington, D. C.

Resolutions.

Friday, April 23—2 p. m.

Election of Officers

Bacillary Dysentery in Children: A Report on the Use of Oral Vaccines as a Method of Prevention.
Harvey P. Barret, Charlotte, N. C.
Discussion to be opened by Kenneth M. Lynch, Dallas, Texas, and J. R. Ashe, Charlotte, N. C.

The Epidemiology of Poliomyelitis with Reference to Its Mode of Spread. W. L. Aycock, Boston.
Discussion to be opened by Edward S. Godfrey, Jr., Albany, N. Y.

Is Trachoma a Deficiency Disease?
B. Franklin Royer, New York.
Discussion to be opened by J. A. Stucky, Lexington, Ky.

Breaking the Vicious Circle in Florida Tourist Camps.
J. M. Lowrey, Miami, Fla.
Discussion to be opened by B. L. Arms, Jacksonville, Fla., and E. C. Levy, Tampa, Fla.

Protective Health Measures on the United States-Mexico Border. J. W. Tappan, El Paso, Texas.
Discussion to be opened by H. O. Sappington, Austin, Texas, and Felix P. Miller, El Paso, Texas.

SECTION ON UROLOGY

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—B. A. Thomas, Philadelphia.
Vice Chairman—W. B. Dakin, Los Angeles.
Secretary—George Gilbert Smith, Boston.
Executive Committee—Herman L. Kretschmer, Chicago; *John T. Geraghty, Baltimore; B. A. Thomas, Philadelphia.

Wednesday, April 21—2 p. m.

Stricture of the Female Urethra.
Winfield Scott Pugh, New York.

Leukoplakia of the Bladder (Lantern Demonstration).
Russell A. Hennessey, Memphis, Tenn.

Cystometric Determination of Bladder Pressure—Presentation of Instrument (Lantern Demonstration).
D. K. Rose, St. Louis.

Resection of Obstructions at the Vesical Orifice (Lantern Demonstration). Maximilian Stern, New York.

Spinal Anesthesia: A Review of More Than Six Thousand Cases in the Los Angeles General Hospital, with Especial Consideration of Genito-Urinary Operations.
Harry W. Martin and Rachel E. Arbuthnot, Los Angeles.

Thursday, April 22—2 p. m.

Chairman's Address: Influence of Urology on Longevity.
B. A. Thomas, Philadelphia.

Prognosis in Chronic Pyelonephritis (Lantern Demonstration). W. F. Braasch, Rochester, Minn.

SYMPOSIUM ON THE TREATMENT OF BLADDER CARCINOMA

Radical Surgical Treatment of Bladder Carcinoma (Lantern Demonstration).
Edward Starr Judd, Rochester, Minn.

Treatment of Bladder Carcinoma by Diathermy (Lantern Demonstration).
John H. Cunningham, Jr., and Roger C. Graves, Boston.

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* Deceased.

Radium Treatment of Carcinoma of the Bladder.
Alfred I. Folsom, Dallas, Texas.

Deep Roentgen-Ray Therapy of Bladder Carcinoma.
Charles Alexander Waters, Baltimore.

Ureteral Transplantation in Bladder Carcinoma: Technic and Utility. Arthur L. Chute, Boston.

Friday, April 23—2 p. m.

Election of Officers

Postmortem Ureteropyelographic Study of Urinary Tracts of Infants and Children: Its Practical Application in Urologic Diagnosis and Treatment of Children (Lantern Demonstration).
Clinton K. Smith, Kansas City, Mo.

Bilateral Pyelo-Ureterograms (Lantern Demonstration).
Abraham Mattes, New Orleans.

Preoperative Diagnosis of Horseshoe Kidney (Lantern Demonstration). Herman L. Kretschmer, Chicago.

Diagnosis of Renal Tuberculosis
William E. Stevens, San Francisco.

Nephropexy for Ptosis Causing Ureteral Kinks (Lantern Demonstration). C. E. Burford, St. Louis.

Stricture of the Ureter in Males.
Nelse F. Ockerblad, Kansas City, Mo.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Frank R. Ober, Boston.
Vice Chairman—J. P. Lord, Omaha.
Secretary—James Archer O'Reilly, St. Louis.
Executive Committee—Henry B. Thomas, Chicago; F. J. Gaenslen, Milwaukee; Frank R. Ober, Boston.

Wednesday, April 21—2 p. m.

Fractures of the Shaft of the Femur (Lantern Demonstration). W. K. West, Oklahoma City.
Discussion to be opened by LeRoy C. Abbott, St. Louis; Sam Webb, Jr., Dallas, Texas, and J. S. Speed, Memphis, Tenn.

On Removing Splints and Braces from the Patient (Lantern Demonstration). Emil S. Geist, Minneapolis.
Discussion to be opened by Frank R. Ober, Boston; Henry W. Meyerding, Rochester, Minn., and F. J. Gaenslen, Milwaukee.

Etiology and Pathology of Arthritis.
Ralph Pemberton, Philadelphia.
Discussion to be opened by C. L. Lowman, Los Angeles; Frank R. Ober, Boston, and Walter G. Stern, Cleveland.

Paranasal Cell Infection as a Cause of Infectious Arthritis (Lantern Demonstration). M. F. Arbuckle, St. Louis.
Discussion to be opened by W. K. West, Oklahoma City; Robert Caldwell, Little Rock, Ark., and John O. McReynolds, Dallas, Texas.

The Value of the Intracutaneous Salt Solution Test in Circulatory Disturbances of the Lower Extremities (Lantern Demonstration).
Walter G. Stern and Milton B. Cohen, Cleveland.
Discussion to be opened by Barney Brooks, Nashville, and Fred J. Gaenslen, Milwaukee.

Heliotherapy with Reference to the Treatment of Tuberculosis of the Spine (Lantern Demonstration).
Ralph K. Ghormley, Boston.
Discussion to be opened by Willis C. Campbell, Memphis, Tenn.; W. B. Carrell, Dallas, Texas; Jeremiah Metzger, Tucson, Ariz., and Charles E. Sevier, Colorado Springs, Colo.

The Rôle of Iliolumbar Ligaments in Low Back Strain Cases (Lantern Demonstration).
C. L. Lowman, Los Angeles.
Discussion to be opened by Emil S. Geist, Minneapolis, and Ralph K. Ghormley, Boston.

Thursday, April 22—2 p. m.

Dislocation of the Carpal Semilunar Bone (Lantern Demonstration). Earl D. McBride, Oklahoma City.
Discussion to be opened by Fred J. Gaenslen, Milwaukee; Philip H. Kreuscher, Chicago; James R. Bost, Houston, Texas, and Charles F. Clayton, Fort Worth, Texas.

A New Operation for the Correction of Moderate Claw Foot (Lantern Demonstration).
Frank D. Dickson and Rex L. Diveley, Kansas City, Mo.
Discussion to be opened by Willis C. Campbell, Memphis, Tenn.; Henry W. Meyerding, Rochester, Minn., and C. L. Lowman, Los Angeles.

Chairman's Address: Diagnosis in Orthopedic Surgery.
Frank R. Ober, Boston.

The Pathology and Prognosis of Bone Tumors (Lantern Demonstration).
W. C. MacCarty, Rochester, Minn.
Discussion to be opened by Joseph C. Bloodgood, Baltimore; Frank D. Dickson, Kansas City, Mo., and J. S. Speed, Memphis, Tenn.

The Differential Diagnosis of Bone Tumors (Lantern Demonstration). Henry W. Meyerding, Rochester, Minn.
Discussion to be opened by Fred H. Albee, New York; H. B. Thomas, Chicago, and E. C. Ernst, St. Louis.

Ossifying Hematoma (Lantern Demonstration).
C. A. Stone, St. Louis.
Discussion to be opened by Sam Webb, Jr., Dallas, Texas, and Walter G. Stern, Cleveland.

Orthopedic Problems of Leprosy (Lantern Demonstration).
P. A. McIlhenny, New Orleans.
Discussion to be opened by O. E. Denney, Carville, La., and Ralph Hopkins, New Orleans.

Friday, April 23—2 p. m.

Election of Officers

Some Diagnostic Problems Presented by the Hip in Early Life (Lantern Demonstration).
J. Albert Key, St. Louis.
Discussion to be opened by Ralph K. Ghormley, Boston, and LeRoy C. Abbott, St. Louis.

Common Hip Joint Diseases (Lantern Demonstration).
LeRoy C. Abbott, St. Louis.
Discussion to be opened by Frank D. Dickson, Kansas City, Mo., and Willis C. Campbell, Memphis, Tenn.

Reconstruction of the Hip Joint (Lantern Demonstration).
J. S. Speed, Memphis, Tenn.
Discussion to be opened by Henry W. Meyerding, Rochester, Minn.; Fred H. Albee, New York, and Walter G. Stern, Cleveland.

Treatment of Contractures at the Knees (Lantern Demonstration). John P. Lord, Omaha.
Discussion to be opened by Charles A. Parker, Chicago; Emil S. Geist, Minneapolis, and John T. O'Ferrall, New Orleans.

A Study of Spondylolisthesis with Especial Reference to the Cauda Equina (Lantern Demonstration).
Eslie Asbury, Cincinnati.
Discussion to be opened by Henry W. Meyerding, Rochester, Minn.; C. L. Lowman, Los Angeles, and J. Archer O'Reilly, St. Louis.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—Sidney K. Simon, New Orleans.
Vice Chairman—Jerome M. Lynch, New York.
Secretary—Frank Smithies, Chicago.
Executive Committee—Franklin W. White, Boston; Ralph W. Jackson, Fall River, Mass.; Sidney K. Simon, New Orleans.

Wednesday, April 21—9 a. m.

The Value of the String Test in Cases of Gastric and Duodenal Ulcer. Jacob E. Meengs, Grand Rapids, Mich.
Discussion to be opened by Max Einhorn, New York, and Charles G. Lucas, Louisville, Ky.

The Alkaline Tide in Achlorhydria.
Samuel A. Munford and Roger S. Hubbard, Clifton Springs, N. Y.
Discussion to be opened by Anton J. Carlson, Chicago, and Daniel N. Silverman, New Orleans.

Gastric Cancer: Present Status of Diagnosis and Prognosis (Lantern Demonstration).
George B. Eusterman, Rochester, Minn.
Discussion to be opened by Milton M. Portis, Chicago, and Horace W. Soper, St. Louis.

Hodgkin's Disease of the Abdominal Type: Report of a Group of Cases.
George P. Muller and Russell S. Boles, Philadelphia.
Discussion to be opened by David Riesman, Philadelphia, and John H. Musser, Jr., New Orleans.

Hemorrhoids (Lantern Demonstration).
J. Rawson Pennington, Chicago.
Discussion to be opened by Charles M. Rosser, Dallas, Texas, and J. F. Montague, New York.

Clinical Variations in Negro Proctology: The Venereal Factor (Lantern Demonstration).
Curtice Rosser, Dallas, Texas.
Discussion to be opened by J. Rawson Pennington, Chicago, and Collier F. Martin, Philadelphia.

Thursday, April 22—9 a. m.

Chairman's Address: The Teaching of Gastro-Enterology in Our Medical Schools.
Sidney K. Simon, New Orleans.

Congenital Abnormalities of the Omentum in Relation to Gastro-Intestinal Disease.
John W. Draper and R. K. Johnson, New York.
Discussion to be opened by G. Reese Satterlee, New York, and John Bryant, Boston.

Spastic Esophagus and Mucous Colitis: Studies in the Etiology and the Treatment by Progressive Relaxation (Lantern Demonstration).
Edmund Jacobson, Chicago.
Discussion to be opened by Martin E. Rehfuss, Philadelphia, and Franklin W. White, Boston.

Epigastric Hernia, with Especial Reference to Its Diagnostic Importance in Gastro-Intestinal Affections (Lantern Demonstration).
Julius Friedenwald and Theodore H. Morrison, Baltimore.
Discussion to be opened by Alexius McGlannan, Baltimore, and John A. Lichty, Clifton Springs, N. Y.

The Clinical Effects of Abnormalities in the Portal Circulation on the Gastro-Intestinal Tract.
J. F. Montague, New York.
Discussion to be opened by D. C. McKenny, Buffalo, and Louis A. Buie, ochester, Minn.

The Treatment of the Psychoneuroses by the Removal of Focal Infections, with Especial Reference to Colectomy and Cecocolectomy. E. C. Dudley, Chicago.
Discussion to be opened by Henry A. Cotton, Trenton, N. J., and Harlow Brooks, New York.

Cholecystitis and Its Relation to Pancreatitis (Lantern Demonstration). W. Howard Barber, New York.
Discussion to be opened by William F. Cheney, San Francisco, and Frank Smithies, Chicago.

Cholecystography: Its Interpretation and Clinical Application. John J. Gilbride, Philadelphia.
Discussion to be opened by Edward Starr Judd, Rochester, Minn., and Evarts A. Graham, St. Louis.

Friday, April 23—9 a. m.

Election of Officers

A Clinical Analysis of Intestinal Flagellate Infestation.
Kenneth M. Lynch, Dallas, Texas.
Discussion to be opened by Aldo Castellani, New Orleans, and George A. Gray, San Jose, Calif.

Chronic Ulcerative Colitis.
Louis A. Buie, Rochester, Minn.
Discussion to be opened by Jerome M. Lynch, New York, and John M. Blackford, Seattle.

Calcium, Carbon Dioxide and Chloride Content of Venous Blood in Cases of Gastric Ulcer Treated with Alkalis.
Sara M. Jordan, Boston.
Discussion to be opened by John L. Kantor, New York, and Charles S. McVicar, Rochester, Minn.

Cardio-Esophageal Relaxation (Lantern Demonstration).
S. A. Robins and I. R. Jankelson, Boston.
Discussion to be opened by Charles L. Martin, Dallas, Texas, and Walter C. Alvarez, San Francisco.

Duodenal Stagnation (Lantern Demonstration).
Ernest Clyde Fishbaugh, Los Angeles.
Discussion to be opened by George B. Eusterman, Rochester, Minn., and Julius Friedenwald, Baltimore.

SECTION ON RADIOLOGY

MEETS IN AUTOMOBILE-MANUFACTURERS' BUILDING, FAIR PARK

OFFICERS OF SECTION

Chairman—A. C. Christie, Washington, D. C.
Vice Chairman—Harry Imboden, New York.
Secretary—M. J. Hubeny, Chicago.

Wednesday, April 21—9 a. m.

Chairman's Address (Lantern Demonstration).
A. C. Christie, Washington, D. C.

The Teaching of Radiology.
C. Thurston Holland, Liverpool, England.

Infectious Osteomyelitis: Differential Diagnosis.
Ralph S. Bromer, Philadelphia.
Discussion to be opened by J. W. Cathcart, El Paso, Texas.

New Position for Making Roentgenogram of the Mastoid (Lantern Demonstration).
Amédée Granger, New Orleans.
Discussion to be opened by Bertram C. Cushway, Chicago.

Renal and Other Retroperitoneal Tumors: Value of Radiography and Supplementary Methods (Lantern Demonstration).
Daniel N. Eisendrath and Irvin S. Koll, Chicago.

The Value of the Pyelogram and Cystogram in Abdominal Diagnosis from the Standpoint of the Roentgenologist.
Bundy Allen, Iowa City.
Discussion to be opened by Thomas A. Burcham, Des Moines, Iowa.

Gastric Retention of Vegetable Matter.
Lloyd Bryan, San Francisco.
Discussion to be opened by W. W. Watkins, Phoenix, Ariz.

Thursday, April 22—9 a. m.

Pathologic Changes in Lung Tissue as the Result of Foreign Bodies of Long Sojourn (Lantern Demonstration).
Willis F. Manges, Philadelphia.
Discussion to be opened by George W. Holmes, Boston.

Pleural Effusions, General and Local: Their Recognition, Localization and Differential Diagnosis (Lantern Demonstration). L. R. Sante, St. Louis.

Roentgenologic Study of Hemoptysis (Lantern Demonstration). Lawrence Reynolds, Detroit.

[illegible] Various Types of Hernia (Lan- [illegible]
W. O. Upson, Battle Creek, Mich.
Discussion to be opened by James C. Masson, Rochester, Minn.

Cholecystography: Further Observations (Lantern Demonstration). Sherwoon Moore, St. Louis.
Discussion to be opened by L. P. Gay, St. Louis.

Roentgen-Ray Studies of the Appendix, Cecum and Ascending Colon. Benjamin H. Orndoff, Chicago.
Discussion to be opened by T. D. Cunningham, Denver.

Radon (Radium Emanation) as a Palliative Agent in the Treatment of Intra-Oral Cancer.
Frank E. Simpson and Roy E. Flesher, Chicago.

Friday, April 23—9 a. m.

Election of Officers

Hodgkin's Disease and Lymphosarcoma, with Especial Reference to Their Treatment by Radiation (Lantern Demonstration). Curtis F. Burnam, Baltimore.

Surgical Diathermy as an Aid to Radiotherapy in the Treatment of Malignancy, with Especial Reference to Malignancy Within the Mouth.
W. S. Lawrence, Memphis, Tenn.
Discussion to be opened by Grant E. Ward, Baltimore.

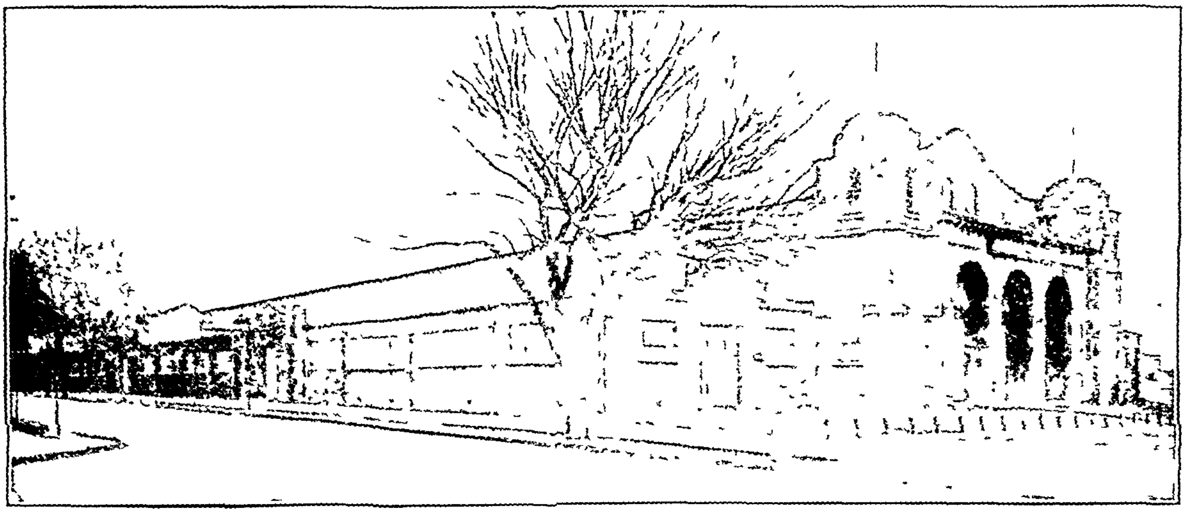
The Treatment of Inoperable Carcinomas of the Urinary Bladder with Roentgen Rays (Lantern Demonstration).
Henry Schmitz, Chicago.
Discussion to be opened by H. L. Kretschmer, Chicago.

The Psychoneuroses of the Artificial Menopause.
James A. Corscaden, New York.

Shortening the Quarantine Period for Diphtheria Convalescents and Carriers.
Sanford M. Withers and John R. Ranson, Denver.

Roentgen-Ray Therapy of Exudative Iritis.
E. C. Samuel and E. R. Bowie, New Orleans.

THE TECHNICAL EXHIBITS



CONVENTION AND EXHIBIT HALL

In the days of the venerable saddlebag doctor, a national exposition of medical supply firms would have been a small affair. Practice then was relatively simple and the physican's needs were few.

But the doctor of today is heir to a great legacy of new and better methods—so great indeed as to call into existence large and highly specialized industries to supply the necessities for the modern scientific practice of medicine.

The purpose of the technical exhibits at the annual Convention is to show the visiting physician the very best that industry produces for his needs. At Dallas the representative firms of the entire United States will come together and form one large, orderly, national exposition. A great world's fair would probably not present such a showing of things that intimately concern the work of the physician.

The very fact that medical practice has become highly developed and complicated makes an exposition of this nature all the more valuable to the visitor. In the olden days it was not difficult for the physician to choose his equipment. There was little to choose. For example, in the matter of books, so great a volume of information on medical subjects is now extant that one can read only a fractional part of it. Books must be chosen with discrimination and fortunate indeed is the Convention visitor who plans to spend ample time among the publishers' exhibits, for he can actually see and examine the leading productions of most of the medical book publishers. It is a wonderful opportunity to become acquainted with books.

The same applies to pharmaceuticals, biologicals, instruments, apparatus, infant foods. The great pharmaceutical firms will have at hand specimens of standard remedies made by refined, accurate manufacturing processes. They will exhibit many new medicinal agents. Biological preparations, serums and vaccines, including the newly developed scarlet fever toxins and antitoxins, will be fully represented and capable scientific attendants will give full information.

With a growing interest in physiotherapy, the exhibits of the electrotherapeutic manufacturers will take on an added significance this year. Extensive displays of roentgen ray and other electric apparatus will be an important part of the exposition. Technical experts will be present at each booth to answer questions and explain problems of technic. The latest models of apparatus for diagnosis, anesthesia and other medical uses will be generously represented.

Those interested in problems of diet for infants or convalescents will find leading manufacturers of special food preparations present with experienced men ready to explain the uses of their various foods.

Repeated visits to Exhibit Hall will prove stimulating and profitable. The hall will be open daily from 8 a. m. to 6 p. m. (Friday, 8 a. m. to 4 p. m.). It will afford a convenient place to meet friends or to spend the time between section meetings. The visitor may feel free to ask questions or examine exhibits without being unduly importuned or obligated to purchase.

On the following page is given the list of exhibitors with booth numbers. Following this list are brief descriptions of some of the exhibits. This is by no means complete, inasmuch as some firms had failed to send in their descriptions at the time of going to press. At the end of the descriptive matter is a diagram of Exhibit Hall. It will be noted that the hall is laid out by avenues—from First to Fifth Avenue—the booths along each avenue being correspondingly numbered from 100 to 500. Thus any particular exhibit can be readily located. For example, booth 240 will be found on Second Avenue toward the rear of Exhibit Hall.

WILL C. BRAUN,
Business

List of Exhibitors

See Floor Plan of Exhibit Hall on Page 797

Name	Space No
Abbott Laboratories North Chicago, Ill	317 529
Acme Internat'l X-Ray Co, Inc, Chicago. .	219 221-322
Allison Co, W D, Indianapolis	335 337
Ambulatory Pneu Splint Mfg Co, Chicago	316
Amer Assn of Med Milk Com, Chicago	242
American Opt Co, Dallas	125
American Sterilizer Co, Erie, Pa	405
Appleton & Co, D, New York	101
Armand Company, Des Moines, Ia	142B
Bard, Inc, C R, New York	414
Bard Parker Co, New York	124
Battle Creek Food Co, Battle Creek, Mich	133
Baum Co, Inc, W A, New York	216 307
Bausch & Lomb Opt Co, Rochester, N Y	108-110
B B T Corporation, Philadelphia	409
Becton, Dickinson Co, Rutherford, N J	344-346 348
Berger Bros Co, New Haven, Conn	306
Betz Co, Frank S, Hammond, Ind	211 213
Blakiston s Son & Co, P, Philadelphia	200
Brady & Co, Geo W, Chicago	327
Buck X Ograph Co, St Louis	331 333
Burdick Cabinet Co, Milton Wis ..319	321-323
Cambridge Instrument Co, Ossining, N Y	113
Cameron s Surg Spec Co, Chicago	150 503
Canada Dry Ginger Ale, New York	511
Cary Co, The A P, Dallas	147 149
Castle Co, Wilmot, Rochester, N Y	106
Cellosilk Mfg Co, Chicago	206
Central X-Ray Co, Chicago	330
Cilkloid Co, Marshalltown, Ia	140A
Collins Warren E Boston	310
Continental Scale Works, Chicago	516
Cook Laboratories, Chicago	210
Cragmor Sanat, Colorado Springs, Colo	240
Cutter Laboratories, Berkeley, Calif	107
Davis Co, F A, Philadelphia	123
Dennos Food Co, Chicago	527
Dermatological Research Lab, Chicago	529
Deshell Lab, Inc, Chicago.	502 504
DeVilbiss Mfg Co, Toledo, O	513 515
Doniger & Co, S, New York	145
Dry Milk Co, The, New York	326 328
Eastman Kodak Co, Rochester, N Y.118	120 122
Fischer & Co, H G, Chicago	111 208
Flanders-Day Co, Boston	411
Foregger Co, Inc, New York	132
French Screen Co, Detroit	140B
Gateway Club, El Paso Tex	514
General X Ray Co, Boston	235-237
Graybar Electric Co, New York	136-138
Hanovia Chem & Mfg Co, Newark, N J,	121-214
High Tension Co, Union City, N J	143-236
Hoeber, Inc, Paul B, New York	501
Hoffman-La Roche Chem Wks, New York	139-141
Horlick's Malted Milk Corp, Racine, Wis	218 220
Hynson, Westcott & Dunning, Baltimore	209 308
Ideal Metal Furniture Co, Los Angeles	339
Johnson Co, Mead, Evansville, Ind	228-230 232
Johnson-North X-Ray Co, Dallas	324
K C Oxygen & Gas Co, Kansas City, Mo	128
Kelley-Koett Mfg Co, Covington, Ky	343-345
Kellogg Co, Battle Creek, Mich	151
Kloman Inst. Co, Washington, D C.	403
Knox Gelatine Co, Jamestown, N Y	135-137
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Laboratory Prod Co, Cleveland	117
LaMotte Chemical Co, Baltimore	525
Lea & Febiger, Philadelphia	301
Lederle Antitoxin Lab, New York	148
Lehn & Fink Products Co, New York	104
Leitz, Inc F, New York	234
Liebel-Flarsheim Co, Cincinnati	229 332
Linen Underwear Co, Greenwich N Y	227
Lippincott Co, J B, Philadelphia	212
Login Bros, Chicago	502
MacGregor Inst Co, Needham Mass	506
Macmillan Company, New York	410
Mallinckrodt Chem Wks St Louis	105
Maltbie Chemical Co, Newark, N J	129
Massillon Rubber Co, Massillon Ohio	305
McClure Co, E H, Dallas	409
McIntosh Elec Corp, Chicago	231 334
Mellin s Food Co, Boston	313 315
Merrell Co, Wm S, Cincinnati	404 406
Merrell Soule Co, Syracuse, N Y	303-402
Metz Lab, Inc, H A, New York	311
Meyrowitz Surg Inst Co, New York	329
Mosby Co, C V, St Louis	500
Muckle Co, Paul V, Denver	144A
Mueller & Co, V, Chicago	202-204
National Radium Prod Co, New York	138
Nelson & Sons, Thos, New York	102
Nestle's Food Co, New York	203
Patch Co, E L, Boston	518 520
Patterson Screen Co, Towanda, Pa	225
Pelton & Crane Co, Detroit	134
Pfau's American Inst Co, New York	304
Postum Cereal Co, Battle Creek, Mich.	239-241-243 245
Powers Weightman-Rosengarten Co, Phila	127
Prior Co, W F, Hagerstown, Md	400
Prometheus Electric Co, New York	341
Radiograph-Scope Co, Greensboro, N. C	519
Radium Chemical Co, Pittsburgh	415
Safety Anaes Appl Concern, Chicago	207
Sanborn Company, Boston	100
Sanit and Hosp Equip Co, Battle Creek, Mich	131-224
Saunders Co, W. B, Philadelphia	201-300
Scanlan-Morris Co, Madison, Wis	413
Schoedinger, F O, Columbus, Ohio	407
Sharp & Smith, Chicago	521-523
Siebrandt Mfg Co, J. R, Kan City, Mo	325
Sklar Mfg Co, J, Brooklyn	412
Smith, Inc, Upsher, Minneapolis	144B
Sorensen Co, Inc, C M, L I C, N Y.	507 509
Spencer Lens Co, Buffalo	126
Squibb & Sons, E R, New York	309-408
Standard-Engeln Corp, Chicago Cleveland	338-340 342
Swan Myers Co Indianapolis	103
Taylor Inst Co, Rochester, N Y.	112-114-116
Terrell Supply Co, Fort Worth Texas	505
Thompson's Malted Food Co, Waukesha, Wis	244
Thompson-Plaster X-Ray Co, Leesburg, Va	146
Toledo Tech Appl Co, Toledo	222
Victor X Ray Corp, Chicago 215-217-316	318 320
Walstrom Optical Co, Dallas	226
Wappler Electric Co, L I C, N Y	233-336
Welch Grape Juice Co, Westfield, N Y	223
Wood & Co, Wm, New York	401
Zeiss Jena Agency, Carl, New York	302
Zemmer Co, Pittsburgh	130

APPARATUS, DIAGNOSTIC AND TREATMENT

The advantages of the Ambulatory Pneumatic Splint for fractures of the hip, thigh, leg and ankle will be demonstrated in Space 316 by the Ambulatory Pneumatic Splint Mfg Company This device permits walking treatment of fractures and will be shown in actual use The exhibit will also include the Pneumatic Arm Splint for fractures of the humerus and bones of the forearm "Ambumatic" Washable Abdominal Supporter Corset Binders and the "Miracle' Artificial Hands, Arms and Orthopedic Appliances will be demonstrated

"A new era in diagnosis and surgery —an era of high visibility realized" is the description given by members of the profession who have seen and are using the Electro diagnostic and operating equipment for transillumination, direct illumination, diagnosis, simplified technic, cauterization and improved instrumentation A complete demonstration of the Electrodiagnostoset will be given in Booths 150 and 503 by Cameron Surgical Specialty Company, Chicago

A Universal Metric Gas Machine will be the principal attraction in the booth of The Foregger Company, Inc, known as the manufacturers of the Gwathmey Apparatus How this machine measures correctly the flow of seven different gases will be fully explained to all visitors Booth 132

The MacKenzie Ink Polygraph will be shown in actual use by the E Leitz Company in Booth 234 An assortment of microscopes ranging from pocket size to a complete research binocular type will be included in this exhibit There will be many instruments of an entirely new construction—a laboratory and hospital model microscope, a photomicrographic camera attachment—and a complete assortment of colorimeters The Feinblatt blood transfusion apparatus will be featured

All necessary aids to diagnosis and treatment in nose, throat and ear work have been incorporated into the Imperatori Treatment and Diagnostic Unit, a suction and pressure apparatus built by the J Sklar Manufacturing Company who will occupy Booth 412 This is a four cylinder outfit, providing for simultaneous or separate use of suction or pressure without intercommunication The Stem-O-Lite and Dr Harry Koster's Blood Transfusion Apparatus will also be displayed

A new piece of equipment for nose and throat work, the "De Luxe," will be featured in the exhibit of C M Sorensen Company, Inc This is a highly improved eight-drawer cabinet containing separate pumps for pressure and for suction with a very complete system of controls Booths 507-509

The McKesson Appliances, which include the Gas-Oxygen Machine, the Recording Metabolor, the McKesson Special for obstetrics and minor surgery, the McKesson Surgical Pump and the small McKesson T & A Pump, will be shown by the Toledo Technical Appliance Company in Space 222 The manufacturer has new things to tell visitors and all are urged to make special effort to call and talk with the attendants

Sterilizers in operation will be shown in the Wilmot Castle exhibit Trained representatives of the company will be present to explain the necessity of complete sterilization for dressings and water, as well as for instruments New points of technique, whereby dressings, water and instruments may all be sterilized in a convenient and practical way, will be presented Space 106

APPARATUS FOR METABOLISM TESTING

The Benedict-Roth Metabolism Apparatus, with a new improved Chronokymograph, will be the principal feature of the exhibit by Warren E Collins in Booth 310 A new apparatus will also be shown for the first time—the Benedict Oxy-Calorimeter This is a late development of the Carnegie Nutrition Laboratory, which provides a simple, accurate means for determining the calories in foods, excreta and fuels Actual demonstrations will be made.

The Sanborn Grafic, a simplified oxygen consumption apparatus, with Kymograf, also the Sanborn Benedict for metabolism testing will be featured by the Sanborn Company in Booth 100 The new 1926 model shows interesting improvements, among them the Kymograf as an integral part for recording a grafic chart of the metabolism test The Sanborn Electrocardiograf for scientific heart examination will also be shown. Being transportable it will be of interest for either hospital or office use.

APPARATUS, ELECTRO-THERAPEUTIC

With capacity sufficient for all diagnostic work and occupying an extremely small space, the Precision Type Coronaless Six Sixty Generator will prove of interest to the general practitioner, as well as the roentgenologist. It is manufactured by the Acme-International X-Ray Company, who will occupy Spaces 219, 221 and 322, with a display of diagnostic, roentgen-ray apparatus and physiotherapy equipment. The Acme-International Polytherm Generator will be on display.

Two very radical departures in diathermy machine construction will be shown in the exhibit of H. G. Fischer & Co., Inc. These features are embodied in the two new units which will form a part of the display. Late developments in Quartz Lamp Apparatus, Radiant Therapy Lamps, Wave Generators, electrodes and applicators for various electrical modalities will be on display, and visitors are cordially invited to come and ask questions freely of the attendants in charge. Booths 111 and 208.

The Morse Wave Generator will be exhibited by the General X-Ray Company in Spaces 235 and 237. The new GX Genito-Urinary Diathermy Electrodes and the McFee fulgurators will also be on display and their uses explained.

The L-F electric scalpel will be one of the interesting features of the Liebel-Flarsheim Company's exhibit. How this device separates tissues or cartilage without bleeding or oozing from the capillaries will be explained and demonstrated. The Model "U" Dynelectron, which combines the electric scalpel and surgical diathermy modalities and the new mobile Dynelectron will be shown. Booths 229 and 332.

New models of apparatus, including the Biolite, an Infra Red Ray Generator, will be exhibited by the McIntosh Electrical Corporation of Chicago in Booths 231 and 334. Close attention to the newer developments in apparatus, both here and abroad, enables this company to exhibit some new and interesting developments in electro physiotherapy equipment.

The Patterson Cleanable Intensifying Screen and the Patterson Fluoroscopic Screen will be exhibited by the Patterson Screen Company in Booth 225. There will also be shown a new instrument, the Patterson Foreign Body Fluoroscope developed for assisting in the removal of foreign bodies on the fluoroscopic table.

A new Universal Binocular Microscope characterized by a great range of magnification, large flat fields, unequaled stereoscopic effect and entire freedom from eye strain will be exhibited by the Spencer Lens Company. They will also show their Research Microscope de luxe, which has the new combination body and fork-type substage. Booth 126.

A number of new pieces of equipment of interest to the roentgenologist and the physical therapeutist will be shown by the Victor X-Ray Corporation. These are developments of the Research and Engineering Departments and include the Motor-Drive X-Ray Table, Stabilized X-Ray Timer, Vertical Stereo-Radiographic Unit with Automatic Tube Shift, and Rotating Bucky Fluoroscopic Grid. Their showing will be very extensive and will occupy Booths 215, 217, 316, 318 and 320.

A silent motorless X-Ray machine delivering rectified current for either Coolidge or Gas Tubes is one of the new articles that will be displayed by the Wappler Electric Company. They will also show the latest diagnostic instruments, including a new Cystoscope of Dr. Hugh Young. Booths 233 and 336.

BOOKS

Among the Blakiston books will be found a number of monographs of distinct value to the physician who wishes to keep abreast of medical progress. Standard textbooks and manuals will be shown in new editions. A new modern "Practice of Medicine"; an entirely new edition of Greene's "Medical Diagnosis" and other new books on various phases of clinical medicine together with some surprises will make the Blakiston exhibit well worth visiting. Booth 200.

The entire Hoeber line of books including the "Annals of Roentgenology" and the well known "Annals of Medical History" will be on display in Booth 501. The following new publications will be worthy of particular attention: Sach's and Hausman's "Nervous and Mental Disorders from Birth Through Adolescence"; "Henry Ford Hospital Report"; Jackson's "Goiter"; "Transactions of the Charaka Club"; Stewart's "Skull Fractures, Roentgenologically Considered"; Stewart's "Physiotherapy," and the beautiful atlas by Lynch and Felsen on "Tumors of the Colon and Rectum." Some of the earlier publications such as Tilney and Riley's "Form and Functions of the Central Nervous System"; Elsberg's "Tumors of the Spinal Cord"; Pardee's "Clinical Aspects of the Electrocardiogram," etc., will also be shown, and as usual the Hoeber exhibit will include a number of rare medical items.

Outstanding new titles on display in the booth of the J. B. Lippincott Company will be Karsner's "Text-Book of Pathology"; Craig's "Parasitic Protozoa of Man"; Foote's "Diseases of the New-Born"; Henderson's new translation of Meyer and Gottlieb's "Experimental Pharmacology"; Bailey and Cushing's "Classification of the Tumors of the Glioma Group"; the new printing of Spalteholz' "Anatomy"; the Third Edition of Villiger's "Brain and Spinal Cord," and the Third Edition of Dennett's "Simplified Infant Feeding." In addition the regular line of standard medical works will be displayed for the convenience and examination of visitors. Booth 212.

Many out-of-print medical works will be exhibited by Login Brothers in Space 502. These will include Saunders' "Medical Hand Atlases"; Dalton's "Brain," 3 volumes; Parsons' "Eye," 4 volumes; Cushing's "Pituitary Body"; Schliep's "Atlas of Hematology"; MacEwen's "Atlas Head Section"; Osler's First Editions of Works; Baas' "History of Medicine"; Schroeder's "Medicine 1648"; "Archives of Roentgen Ray," first 11 volumes, and a great many other scarce items.

The forthcoming "Atlas of Human Anatomy" by Carl Toldt will be fully explained and described by representatives at the Macmillan Booth 410. Recent Macmillan monographs on nephritis, goiter, arteriosclerosis, manipulative surgery and a very specialized work by Dr. George W. Crile will be displayed.

Nelson's "Loose Leaf Living Medicine," an international work on internal medicine, will be shown by Thomas Nelson & Sons in Space 102. The exhibit will afford the visitor a splended opportunity to inspect the illustrations, charts, tables, microphotographs, roentgenograms, colored plates and other features of this work. Information will also be given out concerning the membership in the Nelson Medical Service Bureau and the new seven-volume "Surgery" now in preparation.

Hugh H. Young's new work on "Urology"; Bickham's six-volume work on "Surgery"; Abt's eight-volume work on "Pediatrics"; the new Mayo Clinic Volume; Cabot's "Facts on the Heart"; the new edition of Moynihan's "Abdominal Operations"; Lilienthal's two-volume work on "Thoracic Surgery"; new edition of Da Costa's "Surgery"; advanced sheets of the new edition of Scudder's "Fractures"; the new edition of the "American Illustrated Medical Dictionary"; new edition of Arny's "Pharmacy"; Boyd's "Surgical Pathology"; Morse's "Biochemistry," and a new edition of Boyd's "Preventive Medicine" are some of the works of particular importance that will appear in the booth of W. B. Saunders Company. Their complete line of books will be shown in Booths 201 and 300.

Specimen copies of about 250 of their current medical publications will form a part of the exhibit of William Wood & Co. Physicians will be welcome to examine these at their leisure and without obligation to purchase. There will be many new books and many new editions of well known standard works. The booth is number 401, directly opposite the Registration Bureau.

FOODS FOR INFANTS AND INVALIDS

Physicians are invited to sample the certified milk produced under auspices of the American Association of Medical Milk Commissions, who will have an exhibit in Booth 242. The value of certified milk to the medical profession will be discussed with all those who are interested.

Dennos, a cereal milk modifier, and Dennos Barium Meal for X-Ray diagnosis will be exhibited by the Dennos Products Company in Booth 527. The Barium Meal is a new product and its advantages will interest all those doing roentgenological work.

An interesting and useful souvenir for their medical friends will be provided by the Dry Milk Company at their exhibit, Booths 326 and 328. Dryco, a special milk for babies, and Protolac, a calcium caseinate will be shown, and their advantages and uses explained.

Some handsome posters of the "Dryco Baby" will also be exhibited. These are printed in colors and visiting physicians can have copies mailed to their homes upon request.

A full assortment of infant diet materials, covering practically every phase useful to the pediatrician and general practitioner will be displayed by Mead Johnson & Co. in Booths 228, 230 and 232. Products to be shown are Mead's Powdered Whole Milk, Mead's Powdered Half Skim Milk, Mead's Recolac, Mead's Lactic Acid Milk, Mead's Casec, Mead's Powdered Protein Milk, Mead's Dextri-Maltose, Mead's Standardized Cod Liver Oil and Mead's Florena. The physician's time will be well spent by a visit to this booth and courteous attendants will answer his questions.

Nutrition is always a subject worthy of serious discussion and there are many details in relation to the use of Mellin's Food which, if thoroughly understood by physicians, would assist them materially in preparing nourishment for babies, children and adults. The Mellin's Food Company will have representatives present in Booths 313 and 315 to make these details clear to all physicians who are interested. A cordial invitation is extended to visit this exhibit.

The merits and uses of Nestle's Milk Food for infants and growing children, invalids and convalescents, and nursing mothers, will be discussed with visiting physicians in an exhibit of the Nestle's Food Company, Booth 203. Lactogen, a modified dried milk, closely approximating breast milk in analysis and digestibility, and Nestle's Malted Milk, will also be exhibited.

A pictorial exhibit of facts about malted milk has been in preparation for six months by the Thompson's Malted Food Company. It will be the main feature of their exhibit. It includes photographs, photo-micrographs and reports from independent laboratories which bring out information about malted milk not hitherto available. A visit to this booth will give the physician some interesting facts about the malted milk industry in general and a first hand acquaintance with Thompson's new product, "Double Malted" Malted Milk. Booth 244.

INSTRUMENTS

A complete assortment of blades and knife handles will be shown by the Bard-Parker Company, Inc., in Booth 124. The visitor will be interested in the Bard-Parker handle, particularly because it has no hidden crevices and thereby facilitates complete sterilization. The fine, steel blades will also be worth close inspection. A cordial invitation is extended to all physicians to come and obtain full information.

The Surgical Profession have been experimenting for years in an effort to perfect an instrument to safely dilate the ureter. C. R. Bard, Inc., who will exhibit in Booth 414 believe they have such a device. Urologists and surgeons will not only be interested in the X-Ray plates showing this instrument in situ but in their exhibit of Catheters and Drains. When one appreciates that three months' time is necessary in the manufacture of Eynard's Gum Catheters, it is readily understood why the profession look to France for the delicate work necessary in the construction of ureteral and other Catheters of precision.

The Baumanometer exhibit will be in Booths 216 and 307. How the lay public has reacted to the series of advertisements on blood pressure published in *Hygeia* by W. A. Baum Company, Inc., will be explained and the results from this effort to emphasize the importance of health examination, the danger of worry and self-treatment and the folly of the patient who makes blood pressure a fad will be discussed with visitors to the exhibit. A new development of importance will be shown for the first time.

The actual manufacture of clinical thermometers and syringes will be carried on by Becton, Dickinson & Co. in their exhibit in Booths 344, 346 and 348. This is planned because the average medical man has little opportunity to become familiar with manufacturing processes and here he may acquire first-hand information. A complete line of Luer Syringes, Yale Needles, Ace Bandages, Asepto Syringes, Sphygmomanometers, Spinal Manometers and other specialties will be displayed.

An innovation on previous methods of drug administration by means of a syringe will be demonstrated by the Cook Laboratories who will exhibit the Cook Carpule System. The visitor will find it very worth while to become acquainted with the Carpule, a cartridge ampule containing the medicament and made to fit a special syringe so that the carpule itself really becomes the barrel of the syringe. Booth 210.

Nose and throat sprays, nebulizers, steam vaporizers, etc., for office and prescription purposes will be displayed by the DeVilbiss Mfg. Company in Booths 513 and 515. Specimens of the complete line will be shown.

A mammoth X-Acto Syringe (1,500 cc. capacity) will be one of the features of the S. Doniger & Co. exhibit. They will show many new and improved features and will also exhibit two new lines of imported surgical forceps and scissors—the X.L. Plated line and the Krome Rustless Surgical Instruments in Booth 145.

Well known specialties such as the Scannell apparatus for transfusion of whole blood, the Taylor Massotherapor and the Dunn Local Anesthesia Outfit will form a part of the exhibit of the MacGregor Instrument Company. It will include a complete line of Vim Firth Stainless Steel Hypodermic Needles and Vim, Emerald, DeLuxe, Luer and Tonsil Syringes. Booth 506.

An extensive collection of instruments and apparatus of their own manufacture as well as many important new items from foreign medical centers will be demonstrated by V. Mueller & Co. in Booths 202 and 204. Among the domestic items are Friend's Liver Forceps, DeLee's Obstetric and Caesarian Section Instruments, Miniature Headlamps, etc. Foreign items are: new Trephining Sets, several new Stomach and Intestinal Clamps, new Bone Banding and Metal Suture Sets, etc.

Many new items will be taken to Dallas by Sharp & Smith for their exhibit in Booths 521 and 523. It will consist of a full and complete line of late, improved models of surgeons' instruments and appliances. Every physician and surgeon is urged to make one or more leisurely visits and examine the articles on display.

OFFICE EQUIPMENT

Two new styles of tables are being brought out by W. D. Allison Company of Indianapolis and will be offered to the profession for the first time in their exhibit, Booths 335 and 337. Physicians are urged to come and inspect this well known line of private office furniture, to ask questions and discuss problems of office furnishing.

The entire line of personal weighing scales, manufactured by the Continental Scale Works, will be displayed in Booth 516. Their Physician's Scale, Stork Scale and Healthometer will show the latest design and construction in these types of scales. There will also be a very interesting exhibit of scale mechanisms.

PHARMACEUTICALS AND BIOLOGICALS

Comparatively recent medicinal chemicals such as Acriflavine, Neutral Acriflavine, Cinchophen, Neocinchophen, Butesin Picrate, Benzyl Fumurate and other drugs will be features of the Abbott Laboratories exhibit. These products have been developed in the Abbott Laboratories and are manufactured by them. In view of the heightened interest in chemical and therapeutic research, this exhibit will be well worth time and study. Booths 317 and 529.

The latest developments in the Dermatological Research Laboratories will be explained by trained attendants in Booth 529. Among the well known D. R. L. products to be presented are Arsphenamine, Neoarsphenamine, Sulpharsphenamine, Metaphen, Potassium Bismuth Tartrate with Butyn, Sodium Thiosulphate.

An interesting feature of the Deshell Laboratories exhibit will be the data on the value and application of "habit time" in the treatment of constipation and the function played by Petrolagar in instigating the normal habit time in the constipated individual. Pertrolagar, an emulsification of mineral oil with agar will be shown in two forms—Petrolagar Plain and Petrolagar with Phenolphthalein. Booths 502 and 504.

A group of men from the staff of the Scientific Department of the Hoffman-La Roche Chemical Works will be in attendance at the exhibit of this firm. Digalen, Pantopon, Thiocol Syrup and other well known "Roche" preparations will be on display. A short talk with any of the attendants will give the visitor quick and accurate information concerning the "Roche" preparations. It is possible that a new and very useful "Roche" development will be announced and exhibited to the profession for the first time at this meeting. Booths 139 and 141.

Comprehensive information in regard to Mercurochrome, as well as data on other pharmaceutical specialties and diagnostic apparatus of Hynson, Westcott and Dunning will be given out at Booths 209 and 308. Mercurochrome in all the various packages in which it is regularly offered will be displayed.

The feature of the display by the H. A. Metz Laboratories, Inc., will be the assemblage of the latest information relative to the Metz Line of dependable original products. Those in attendance will be glad of the opportunity to discuss the use of these products, technique of preparation and administration, etc. Surgeons will be interested in the specially prepared sterile Novocain Crystals in hermetically sealed ampules for spinal anesthesia and other forms of Novocain-Suprarenin. Salvarsan, Neosalvarsan, Silver-Salvarsan, Sulpharsphenamine, Anesthesin, Novocain, Albargin, Orthoform, Pyramidon and Suprarenin will be among the products exhibited. Booth 311.

The progress that has been made in the manufacture and biological assay of Cod Liver Oil will be emphasized in the exhibit of the E. L. Patch Company, Booths 518 and 520. Why Patch's Flavored Cod Liver Oil is dependable at all times and almost invariably agreeable to the patient will be explained by Patch representatives. They will be glad to tell visitors about new developments in this important field.

All necessary and special apparatus for applying radium tubes, the new type needle, etc., will be included in the exhibit of the Radium Chemical Company. Special attention will be given to demonstrating the use of the new gold implants that are now being supplied for interstitial radiation. Booth 415.

The products to be featured by E. R. Squibb & Sons will include Insulin, Arsenicals, Cod Liver Oil and the Authorized Scarlet Fever Products produced under the patents granted Drs. George F. and Gladys Dick Representatives of the house of Squibb in attendance at the booth will be pleased to welcome all visitors and will take pleasure in answering questions and explaining merits of the various products. Booths 309 and 408.

The Pollen Exhibit of the Swan-Myers Company is being planned to show the important botanical data of interest to the physician who treats a few, or a large number of hay-fever patients, and should prove a source of helpful suggestions to the doctor in selecting pollen extracts for testing and treating his patients. The forms of extracts that are shown for skin test and therapy are sufficiently varied to conform to individual preference. Booth 103.

SURGICAL DRESSINGS

Cellosilk, which replaces oiled silk, muslin, rubber tissue at a great saving in cost will be exhibited in Booth 206. Its advantages, such as sterilizing qualities, nonadherence, flexibility, toughness and transparency, will be adequately demonstrated by men from the scientific department of the Cellosilk Mfg. Company.

The transparent, nonadherent dressing tissue marketed as Cilkloid by the Cilkloid Company may be examined in Booth 140A. The impervious form will be shown for protective dressings and the perforated form will be featured for direct applications to wound where it does not adhere to the forming granulations. Attendants will be pleased to discuss any problems in connection with the use of Cilkloid.

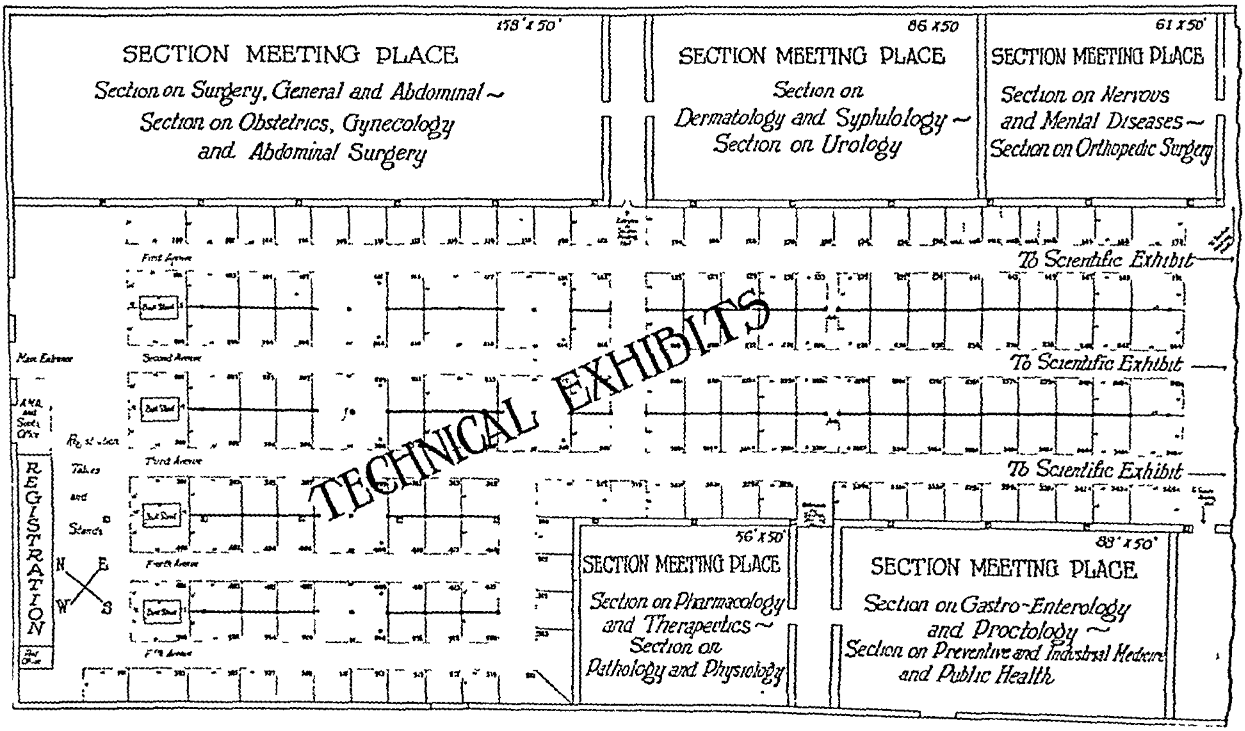
Catgut, Silkworm Gut, Kangaroo Tendon and Cutis will be exhibited along with their regular line of ligatures by the Flanders-Day Company. They will also have on display a large line of Surgeons' Needles and other surgical specialties. A particularly interesting feature of their exhibit will be their Handy Suture Package and their new Cutis ligature. Booth 411.

MISCELLANEOUS

The physicians interested in posture correction and in proper support for maternity cases and relief in enteroptosis, hernia and sarco-iliac strain, will find the exhibit of the Berger Brothers Company interesting and profitable. Various types of Spencer Supporting Corsets and Belts will be on display and their value fully explained. Booth 306.

The El Paso booth will be decorated with models of local, modern sanatoria and hospitals, photographs showing (1) The famous Scenic Driveway over Mount Franklin. (2) El Paso Business Center, with its skyscrapers. (3) The wonderful El Paso Valley along the Rio Grande River, with its beautiful highways. (4) General view of Juarez, Mexico, Calle Comercio, the bull fight ring, race track, the monument of Benito Juarez, the Old Mission Church, the historic Custom House, where Madera delivered his first proclamation at the beginning of the revolution. Booth 514.

The absorbent and hygienic qualities of Wallace's Linen Mesh Underwear will be demonstrated in the exhibit of the Linen Underwear Company, Booth 227. Attendants will explain why these garments are cool and comfortable to wear and will point out the advantages of the peculiar mesh used in the Linen Mesh fabric.



FLOOR PLAN OF EXHIBIT HALL

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 13, 1926.

Cancer and Occupation

There has just been published by the Medical Research Council "An Investigation into the Statistics of Cancer in Different Trades and Professions," by Dr. Matthew Young and Mr. W. T. Russell, with the collaboration of Dr. John Brownlee and Dr. E. L. Collis. The results of the investigation are largely of a negative character. "It must be acknowledged," say the writers, "that, though confirmatory evidence has been obtained of some views already more or less generally accepted as to the close association of some types of cancer with exposure to particular risks incurred in certain forms of employment, e. g., chimney-sweeps' cancer and mule-spinners' cancer, evidence in support of such a connection between the nature of the employment and other forms of cancer, especially those localized internally, cannot be regarded as more than suggestive."

Filter-Passing Viruses

Dr. M. H. Gordon, F.R.S., in the whole-time service of the council, has continued his studies of the viruses of vaccinia and variola reported last year. Advantage was taken of the occurrence of various outbreaks of smallpox in different parts of the country. Comparison by strict serologic methods showed that the viruses from five separate epidemics all gave positive reactions with antivaccinia serum. No difference could be found between virus from the mild type of smallpox sometimes called alastrim (or variola minor) and that from severe examples of this disease (variola major). Since comparable material from six outbreaks of chickenpox and from other control sources gave completely negative results with antivaccinia serum under the same conditions, there is good reason to believe that this serologic method of identifying the presence of variola virus will give valuable aid in future in the diagnosis of smallpox, if it is used. From a study of the immunity reactions of the virus of herpes, the main conclusions formed by Dr. J. R. Perdrau were that the virus of herpes is identical with the causal agent of epidemic encephalitis. The herpetic virus was demonstrated in the brain of the only three fatal cases available. An antibody formed in response to inoculations of the herpetic virus has been found to neutralize in vitro comparatively large doses of the virus.

William Bateson

William Bateson, F.R.S., D.Sc., a pioneer worker on heredity, has died at the age of 64. He was to have been president of the Botanical Section of the British Association this year. It is not usual for one who has been president of the whole association, as Bateson was at the Australian meeting in 1914, afterward to be president of a section. Educated at St. John's College, Cambridge, he was in the first class in the natural sciences tripos of 1882 with J. G. Adami, Henry Head and Arthur Shipley, all later to become famous in medicine or its ancillary sciences. He was attracted to the study of embryology, to which the teaching of Francis Balfour had recently given a stimulus. He went to America to investigate the development of the enigmatical Balanoglosus, and demonstrated that this animal was a connection of the vertebrata. He then turned to the study of variation. Wherever he heard of cases of interest he set out to investigate them, and traveled widely over Europe, and penetrated into Asia as far as Turkestan. He ransacked the field, the museum and the library. The results are to be found in his great work "Materials for the Study of Variation," published in 1894. The idea of discontinuity in variation was Bateson's great contribution in this book. Nature proceeds by jumps. To the followers of Darwin this view was abhorrent, for his conception was of living things evolving through a continuous series of minute changes. Bateson next attacked the problem of heredity by the method of direct experiment, so that when Mendel's paper was unearthed in 1900 he was in a position to appreciate its deep significance. Indeed, it may be said that, had that discovery been delayed a few years, the world would now be speaking of Bateson's law instead of Mendel's. Mendelism was first viewed with skepticism by biologists. But Bateson at once recognized its value and threw himself into the task of vindicating and extending it. In his garden at Grantschester and in the Botanic Garden at Cambridge he gathered round him an enthusiastic little band of younger workers. His garden became the world center for genetic work and thought, attracting visitors from all over the world. In 1908 appeared his classical "Principles of Heredity," and he was elected to the chair of biology of Cambridge, which had been established in recognition of his services to science. He did not, however, retain it long, for in 1910 he became director of the newly founded John Innes Horticultural Institution at Merton, in Surrey. Here, with resources more ample than Cambridge could provide, he was able to exercise to the full his great gift of inspiring younger workers. Before his work was cut short he had made the institution the best of its kind in the world. He pointed out the weakness of the methods of morphology in attempting to solve the great problem of evolution, and insisted that the more fruitful way lay in the study of variation, and he made the biologist study heredity by the method of experiment.

BELGIUM

(From Our Regular Correspondent)

Feb. 3, 1926.

Congress on Aerial Navigation

The third International Congress on Aerial Navigation was held recently in Brussels. The medical section of the congress, which was presided over by Colonel Demolder of the Belgian Army Medical Corps, discussed a series of problems of a medical and physiologic nature that affect the aerial navigator.

APTITUDE FOR FLYING

The methods of selecting aviators were studied more particularly. Dr. Black (Great Britain) dealt especially (1) with the determination of discriminative psychomotor reaction times effected under special conditions with a new apparatus which provokes acts corresponding to the maneuvers executed in guiding aircraft; (2) study of cardiac reactions when the examinee is subjected to the breathing test as described by the author (support by an expiratory effort of a 40 mm. column of mercury for a period of fifty seconds), and (3) study of pulse reactions and arterial pressure after the examinee has been subjected to a rotatory motion. Black has found that abnormal reactions elicited by rotation are a reliable index of weakness in aviators as shown by later flight records, but that the postrotatory nystagmus test is untrustworthy and should be abandoned.

V. G. Brabant of the Belgian army demonstrated that the power of concentrated attention can be studied and, to a certain extent, can be numerically evaluated by the use of a simple test introduced by Kraepelin. He established that the psychic evaluation based on the Kraepelin test, when applied to pilots of long experience, was parallel to the technical appreciation of those men by the heads of their divisions.

Dr. Beyne (France) emphasized particularly the value of the determination of simple psychomotor reaction times, the analysis of discriminative reactions, the study of diffused attention and the evaluation of dynamic effort.

At the close of the discussions, the congress endorsed the view that only the results of the tests as a whole, and not the separate tests, could be regarded as representative of the psychic complex of examinees; that the results of the psychophysiologic tests should agree with and confirm the clinical findings in order to serve as a basis for a medical opinion, the intervention of which is indispensable and cannot be replaced by any sort of numerical criteria.

THE RÔLE OF THE PHYSICIAN IN AERONAUTICS

Dr. Heald of London dealt with the part played by the physician in aeronautics, considering not only his influence on the selection of the flying personnel but also on all that has to do with the analysis of the professional work of the aviator and the hygienic direction of his mode of living. Certain points must be considered from the epidemiologic point of view, for aerial navigation has made rapid contacts between groups of humans formerly isolated.

MILITARY AVIATION

Dr. Sand of Brussels pointed out the services rendered by aviation, even at the present time, in transportation of the wounded or of surgical supplies, and also in the interest of emergency treatment and in the combating of epidemics. This is particularly true of Sweden, where, after heavy snows, the interruption of communication (telephone lines) isolates large areas, and the aid brought by aviators has been of signal service.

RESOLUTIONS PASSED BY THE CONGRESS

The following resolutions were passed by the congress: 1. The neutralization of sanitary aircraft should be recognized. 2. Standardization of the personnel and the character and location of the equipment on board aircraft should be effected. 3. The attention of pilots should be called to the opportunity of controlling the findings of their senses by the indications of instruments on board. 4. The builders of airplanes should provide protection for the heads of aviators against injuries caused by the sides of the pit and by equipment. This protection is especially necessary in forced landings.

Myomectomy During Pregnancy

Addressing the Société belge de gynécologie recently, Schockaert reported two cases of myomectomy during pregnancy. In one case the inner surface of the fibroma was so near to the uterine cavity that it was opened during the operation, permitting a view of the embryo. The uterus was closed. In the second case, a sessile subserous fibroma causing intense pain owing to pressure on the omentum required operation. These indispensable surgical procedures did not, however, affect in any way the evolution of pregnancy, nor did they interfere with the mechanism of delivery. In connection with these cases, several authors discussed the influence of surgical interventions on the evolution of pregnancy. It was generally admitted that an operation on the adnexa during pregnancy will bring about abortion. Delporte reported a case in which he operated on a woman for rupture of extra-uterine pregnancy three months advanced. The conditions necessitated a cuneiform incision in the uterine muscle. Observing, during the course of the operation, that a uterine pregnancy was concomitant with the tubal pregnancy, he informed the family of the patient that a miscarriage would occur in three or four days. The pregnancy, however, continued to term. In spite of these happy results, Dr. Rouffart emphasized the dangers of operations during pregnancy. At such time all interventions that are not absolutely necessary must be avoided.

The Hospital Ship on the Congo

In previous letters I have referred to the hospital ship that is to be put into service on the Congo River. The *Bruxelles médical* has published the details of the organization of the proposed service, from which I take the following items: The service will consist of a motor boat and two barges. The motor boat, of steel hull construction, will be 37 meters long, 7.3 meters broad, and will have, in passing through the water, a draft of only from 50 to 60 cc. It will be provided with three bridges. It will have ice machines, disinfection equipment, waiting rooms, operating rooms, laboratories, cabins and bathrooms. It will have a wireless outfit, which will give it constant connection with the hospitals and with the numerous stations along the river and in the interior. The motors will be able to use petroleum or palm oil. As for the barges, they also will be of steel hull construction and will constitute independent units, being each provided with a wireless outfit, an ice machine and dispensary supplies. They will be 30 meters long, 7 meters broad, and will have a shallow draft. They will be provided with two bridges, nurses' quarters, wards for patients, laboratories, bathrooms, and (in the prow) a ward enclosed with mosquito netting, for convalescents.

GENEVA

(From Our Regular Correspondent)

Feb. 20, 1926.

Preoperative Treatment

Chevrier's method of preparing patients for surgical operation has been followed here with good results. The evening before the operation, an enema is given. A good amount of sugared milk and sweet preserves is given, and at 9 p. m. a large glass of some very sweet drink is ingested and another in the morning a few hours before operation. After operation a 48:1,000 solution of glucose is given by the rectal drip method. This procedure, which loads the liver with glycogen, also tends to increase the bulk of blood, facilitating renal excretion and helping to prevent decrease of the blood pressure.

The results are reduced vomiting and less depression after the anesthesia, and lessened or absent postanesthetic cholemia A slight rise of temperature may be provoked by excessive combustion of glycogen.

Sale of Narcotics

The Medical Society of the Canton of Vaud has issued instructions to its members relating to the federal law for the control of the sale of narcotic drugs, which went into effect, Jan 1, 1925. The law requires pharmacists to produce documentary evidence of authority for the sale of narcotics. Therefore physicians must write out prescriptions for them, and telephonic orders from institutions must be followed by written orders signed by the physicians ordering the drugs. If a prescription containing a narcotic is to be repeated, the physician must specify this in writing or furnish a new prescription. The original prescription must be kept by the pharmacist, unless it contains a written order to repeat it. In that case the prescription is kept by the patient until the last repetition has been fulfilled. A pharmacist may give to a patient a copy of a prescription, but the copy does not rank as a prescription to be filled. Prescriptions of foreign physicians can be filled only once, and then only when the dose of the narcotics contained in it is not abusive. A foreigner usually wants to keep his prescription (given him by his home physician), and a pharmacist may allow him to retain it after the prescription has been stamped with the pharmacist's seal. This prevents a prescription from being filled again elsewhere. If it is necessary to refill the prescription, a Swiss practitioner must be applied to for a written order. Proprietary remedies must be prescribed in writing and are not to be repeated without a written order from the physician.

Surgical Society of Switzerland

The next annual meeting of the Surgical Society of Switzerland will take place at Berne, June 12 and 13. Dr. Albert J. Ochsner of Chicago was to have opened the meeting with a report on goiter, but on account of his death his place will be taken by Dr. Feurer of St. Gall. The other topics for discussion are as follows: Drs. Jentzer and Odermatt will speak on "The Causes of Irritation Arising from Iodine-Alcohol Solutions in the Operating Room." Dr. R. Kummer of Geneva and Drs. Ruppaner and Schweizer of Zurich, will take up the subject of Acute Pancreatitis.

Advertising of Pharmaceutic Preparations

In both Switzerland and France, a campaign is being waged against suggestive and agressive advertising of pharmaceutic specialties. Special attention should be given to an article on the subject by Dr. Igert in the *Journal de psychologie normale et pathologique*, Dec. 15, 1925, and another by Dr. Perrigny in *Le progrès médical*, Feb. 6, 1926. Ingert remarks that an advertisement acts directly on our senses or, more subtly, by mixing some foreign but interesting matter with the subject. As Dr. Perrigny points out, if advertising becomes too aggressive it will not attain its aim. Intensification of advertising has become necessary on account of the increasing number of proprietary preparations, many of them worthless. Some of these preparations are excellent in preparation and in quality of drugs employed. One cannot remember, however, the names and formulas of all of them. The profession would welcome a list of pharmaceutic preparations giving formulas, prices, etc. The medical profession here maintains that the place for pharmaceutic advertising is in recognized medical journals.

Reproduction of Incunabula

Miss E. Droz has recently undertaken the very laudable work of reproducing fifteenth century incunabula, the editions being limited to 500. Those pertaining to medicine that have appeared are: "La clef des songes," a valuable historical tract, and "Remedies Against the Plague," compiled by E. Droz and Dr. A. Klebs. Other fifteenth century medical incunabula are in press.

BERLIN

(From Our Regular Correspondent)

Jan. 30, 1926.

Suicide in Germany Since the War

An epidemic of suicide occurred in the closing weeks of last year. It is instructive to note the relations that statistics have shown to exist between suicide and the prevailing economic situation. In a recent number of the *Klinische Wochenschrift*, Dr. Karl Freudenberg devotes a long article to the problem. Suicide was reduced during the war, but the reduction affected only males. Comparison of suicide statistics for the periods 1911-1913 and 1920-1922 shows that the frequency of suicide among children, which has always been about five times as common among boys as among girls, was not affected by the postwar period. In the age-groups up to age 25, in which the decision to commit suicide is usually of erotic origin, no changes are noted. The marked reduction in the middle age-groups is, however, especially striking, and the assumption has been advanced that natures with manic proclivities, who ordinarily make up a large proportion of the suicides, felt more comfortable during the excitement due to the war than they did under more settled conditions. The increase in suicide in the age-groups of women over 60 and of men above 70 is ascribable to the effects of inflation of the currency. The increase of suicide in women of the 20-30 age-group is doubtless due to the greater risks that young women run during troubled times. Near the peak of the inflation period around 1922, the number of suicides among women above 70 years of age increased by 13 per cent, while the increase among men of the corresponding age was only 7 per cent. The conclusion seems reasonable that women of advanced age are less able to cope with bad economic conditions than are men of corresponding age. The year 1924, owing to the stabilization of the currency, shows a decrease in the number of suicides among the older age-groups, especially among the women.

On the other hand, religion constitutes the most potent deterrent to suicide. The statistics of Prussia for 1911-1913 show that, among men of Protestant, Jewish and Roman Catholic faiths the proportion of suicide per 10,000 was, respectively, 4.10, 4.61 and 1.81; among the women, 1.37, 2.07 and 0.50. The fact that suicide is less frequent in rural than in urban districts may be because country people can procure food more easily than can city dwellers. Since the war, suicide among women has increased at about the same rate irrespective of religion, and more rapidly than among the men.

Occupational or professional suicide statistics are available only for physicians. During the period 1920-1923, there were five cases of suicide per 10,000 among physicians of the 26-46 age-group, and seventeen per 10,000 in the 46-61 age-group. The first figure is almost twice as high as among the corresponding group of the general population; the second is more than three times as high. Elderly physicians suffered severely under the inflation of the currency.

From the standpoint of social position, the highest incidence of suicide is found among the lower middle class. The influence of economic conditions on suicide must not be overestimated; for example, in Berlin the suicide rate has not increased materially in the last hundred years. As for the method resorted to by suicides, death by poisonous gases has become more common since the war. The percentage of men employing that method has increased from 2 to 7.9, while the percentage of women has risen from 7 to 22. In general, hanging, shooting and drowning have been the methods usually employed.

Infant Mortality in Prussia

According to the Prussian bureau of statistics, the infant mortality in the second quarter of 1925 (9.7 per hundred living births) was lower than for the corresponding quarter of 1924 (10.4 per cent). A decrease was noted in all provinces except Brandenburg, in which there was an increase of 0.8, and in Hohenzollern, where the increase was even greater. In East Prussia, Berlin, Lower Silesia, Upper Silesia, Saxony and Schleswig-Holstein there was a decrease of more than 1 per cent. The highest rate was recorded in Upper Silesia (14.4 per cent), and the lowest in Hesse-Nassau (6.9 per cent). For comparison, in the second quarter of 1913 the infant mortality averaged around 14 per cent; only Hesse-Nassau had a rate of 10 per cent, while the highest rate (20.6 per cent) was recorded in Lower Silesia; several provinces had rates above 17 per cent.

Standardization of Smallpox Vaccine Material

In order that smallpox vaccination throughout the world may be placed on a common basis, an endeavor is being made to standardize vaccine materials. At a recent session of the smallpox commission of the League of Nations in the Hague, as stated in the *Deutsche medizinische Wochenscrift*, it was decided to institute experiments to determine the best form of standardization. For this purpose a subcommission was appointed, which is to complete its work as soon as possible, keeping in touch with the laboratories represented. The results obtained will then be compared and a solution will be proposed.

Marriages

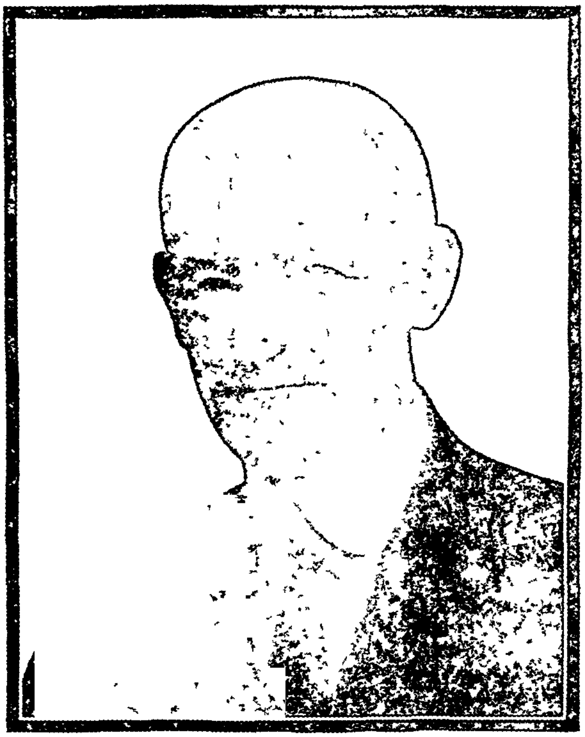
JOSEPH E. BRIDEMAN, Norristown, Pa, to Miss Rebecca Norris Balmer of Valley Forge, recently.

IRA FULTON JONES to Miss Mary Virginia Norris, both of Fort Smith, Ark., February 12.

LEROY CHAPIN, to Mrs. Jean Harris, both of Canton, Ill, January 22.

Deaths

Thomas S. McDavitt ⊕ trustee of the American Medical Association continuously since 1913, died in St. Paul, March 3. He had suffered for several years with myocarditis.



THOMAS S. MCDAVITT, M D, 1857-1926

Dr. McDavitt was born in St. Louis on May 15, 1857; his father was Dr. Virgil McDavitt, a practitioner of that city. After graduation from the Chicago Medical College in 1879, Dr. McDavitt began practice in Minneiska, Minn., in 1879; he practiced in Winona, Minn, from 1880 to 1890, and finally took up practice at St. Paul in 1891, specializing in ophthalmology and otolaryngology. He entered early into the activities of organized medicine, serving as secretary of the Minnesota State Medical Association from 1900 to 1918. Dr. McDavitt also represented Minnesota in the House of Delegates of the American Medical Association, 1906, 1907, 1909 and 1913. At each of these meetings he served also on one of the reference committees of the house. His perspicacity was recognized by his election to the Board of Trustees in 1913 and by his reelection at the expiration of each term since that time.

Since 1912 Dr. McDavitt has been secretary of the Minnesota State Board of Medical Examiners. His interest in medical education was keen; he aided the battle for higher standards and opposed vigorously any attempts of the unqualified to impose on the public.

To Dr. McDavitt the interests of the American Medical Association were paramount, in the consideration of any problem he thought always of the greatest good for the greatest number, and, having made his decision, acted with incisiveness and determination. His calmness and conservatism made him a tower of strength in guiding the activities of the Association.

Henry Rust Stedman ⊕ Boston; Medical School of Harvard University, Boston, 1875; member and past president of the Boston Society of Psychiatry and Neurology and the New England Society of Psychiatry; member of the American Neurological Association, the New York Psychiatrical Society and the American Psychiatric Association; assistant physician and acting superintendent of the Danvers (Mass.) State Hospital, 1879-1884; founder, superintendent and on the staff of the Bournewood Hospital, Brookline, 1884-1918; chairman of a commission appointed by the Governor in 1909 to revise and codify the laws of Massachusetts relating to the insane; formerly a contributor to medical journals; aged 76; died, in February, at his home in Brookline, following a long illness.

William Edward Schroeder ⊕ Chief of staff and attending surgeon in the Wesley Memorial Hospital, Chicago, died in St. Petersburg, Fla., March 5, aged 59. Dr. Schroeder received his preliminary education in the University of Illinois and his degree in medicine from the Chicago Medical College in 1891. He at once took up the practice of surgery, and was at various times associated with Cook County, Provident and People's hospitals and as consulting surgeon of the Illinois Central Railroad, and from 1906 to 1914 was professor of surgery at Northwestern University Medical School. He was for many years recognized as a surgeon of great technical skill.

Nils E. Remmen ⊕ Chicago; University of Illinois College of Medicine, Chicago, 1887, member of the American Academy of Ophthalmology and Oto-Laryngology, and the Chicago Ophthalmological Society; formerly on the staffs of the Lutheran Deaconess, Norwegian-American, and Lutheran Memorial hospitals and the Illinois Charitable Eye and Ear Infirmary; aged 62; died, February 28, at Fair Hope, Ala., of leukemia.

Thomas Rickett Pooley, Newton, N. J.; Bellevue Hospital Medical College, New York, 1864; formerly professor of ophthalmology, Starling Medical College, Columbus and New York Polyclinic Medical School and Hospital; Civil War veteran; on the staff of the New Amsterdam Eye and Ear Hospital, New York, 1888-1910; aged 84; died, February 14, of chronic interstitial nephritis and uremia.

John Hammond Blodgett ⊕ Boston; Medical School of Harvard University, Boston, 1897; member of the New England Otological and Laryngological Society; for many years on the staffs of the Massachusetts Eye and Ear Infirmary and the Boston City hospitals; aged 53; died, February 18.

Willis Baker Gifford, Attica, N. Y.; University of Buffalo Department of Medicine, 1876; member of the Medical Society of the State of New York; past president of the Wyoming County Medical Society; aged 75; died, February 13, near St. Petersburg, Fla., of angina pectoris.

John Cheston King ⊕ Atlanta, Ga.; Atlanta Medical College, 1895; member of the American Psychiatric Association; part owner and medical director of the Cheston King Sanitarium, Stone Mountain; aged 60; died, February 7, at the Wesley Memorial Hospital, of nephritis, uremia and chronic myocarditis.

Alfred H. Read, Norristown, Pa.; Jefferson Medical College of Philadelphia, 1897; member of the Medical Society of the State of Pennsylvania; for twenty years president of the board of health; aged 64; died suddenly, February 11, of heart disease.

Eugene Yates Johnson, Louisville, Ky.; Kentucky University Medical Department, Louisville, 1900; formerly a pharmacist, at one time on the faculty of the University of Louisville School of Medicine; aged 64; died, February 19, of pneumonia.

Franklin Morris Class, New York; Columbia University College of Physicians and Surgeons, New York, 1907; member of the Medical Society of the State of New York; aged 44; died, February 12, at the Presbyterian Hospital, of bronchopneumonia.

William Henry Devine ⊕ Milton, Mass.; Medical School of Harvard University, Boston, 1883; Spanish-American War veteran; formerly on the staffs of the Carney and Deer Island hospital, Boston; aged 65; died, February 5, of pernicious anemia.

John Benjamin Hancock ⊕ Newtonia, Mo.; Missouri Medical College, St. Louis, 1885; past president of the Newton County Medical Society; formerly member of the state legislature; aged 61; died, February 14, of uremia.

James Thompson Schell ⊕ Philadelphia; Medico-Chirurgical College of Philadelphia, 1895; member of the

Obstetrical Society of Philadelphia; aged 53; died, February 22, of influenza.

John Hodges Drake, Sr., Auburn, Ala.; Atlanta Medical College, 1867; member of the Medical Association of the State of Alabama; aged 80; died suddenly, February 5, of heart disease.

James W. McCoy, West Liberty, W. Va.; Medical College of Ohio, Cincinnati, 1875; aged 87; died, February 14, as a result of a cerebral hemorrhage which occurred three years ago.

Willis O. Phillips, Centerburg, Ohio; Cleveland University of Medicine and Surgery, 1883; member of the Ohio State Medical Association; aged 70; died, February 5, of angina pectoris.

James Sherman Swartzwelder, Mercersburg, Pa.; Baltimore Medical College, 1890; Jefferson Medical College of Philadelphia, 1892; aged 60; died suddenly, February 4, of heart disease.

Llewellyn C. Merrill, Chicago; Bennett Medical College, Chicago, 1914; formerly superintendent of the Illinois General Hospital; aged 55; died, February 27, of chronic myocarditis.

Judson Eugene Strong, Cairo, Ill.; Cleveland University of Medicine and Surgery, 1880; aged 70; died, February 9, at St. Mary's Infirmary, following an operation for gallstones.

John Bowen Smith, Clarksburg, W. Va.; Jefferson Medical College of Philadelphia, 1873; College of Physicians and Surgeons, Keokuk, Iowa, 1877; aged 78; died, Dec. 12, 1925.

Benjamin Franklin Falls, Cherryville, N. C.; University of Tennessee College of Medicine, Memphis, 1881; aged 70; died, February 3, at Kings Mountain, of cerebral hemorrhage.

William Henry Still, White Lake, S. D.; University of Bishop College Faculty of Medicine, Montreal, Que., 1902; aged 59; died, February 2, of pernicious anemia.

Clarence Gabriel Perot, Campti, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1906; aged 43; died, February 8, of heart disease.

Lysander W. Black ⊕ Carlsbad, N. M.; Western Reserve University School of Medicine, Cleveland, 1890; aged 71; died, February 9, of cerebral hemorrhage.

Thomas G. Turner, Dunmor, Ky.; University of Louisville School of Medicine, 1889; formerly member of the state legislature; aged 70; died, February 5.

Channing H. Stiles, Detroit; Detroit College of Medicine and Surgery, 1906; formerly on the staff of the Harper Hospital; aged 48; died, February 5.

Webster Smith, Colfax, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1884; aged 65; died suddenly, Nov. 24, 1925.

Ernest L. Alexander, Omaha; Hahnemann Medical College and Hospital, Chicago, 1882; aged 67; died recently, of complications, following influenza.

William A. Pease, Koshkonong, Mo.; Hahnemann Medical College and Hospital, Chicago, 1886; aged 67; died, February 12, of heart disease.

Charles Reginal Ray, Medford, Ore.; Missouri Medical College, St. Louis, 1884; aged 67; died, January 26, near Los Angeles, of pneumonia.

Hiram S. Short, Fillmore, Ill.; Eclectic Medical Institute, Cincinnati, 1873; aged 85; died, February 8, at Nokomis, of cerebral hemorrhage.

Georgina A. Grothan, Winnetka, Ill.; Northwestern University Woman's Medical School, Chicago, 1893; died, February 12.

Frederick Clark Bailey ⊕ Redfield, S. D.; University of Michigan Medical School, Ann Arbor, 1883; aged 67; died, February 10.

Edward T. Smith, Buffalo; Medical Department of the University of the City of New York, 1881; aged 67; died, February 2.

James F. Roper, Union City, Tenn.; University of Tennessee College of Medicine, Memphis, 1893; aged 62; died, January 29.

William B. Sabin ⊕ Watervliet, N. Y.; Albany Medical College, 1882; aged 63; died, January 28, of cerebral hemorrhage.

Fred Sherman, Coldwater, Mich.; Indiana Eclectic Medical College, 1889; aged 72; died, February 7, of heart disease.

George W. Howard, Alvin, Ill.; Hospital College of Medicine, Louisville, Ky., 1876; aged 77; died, February 8.

Edward B. Wallace, Atlanta, Ga.; Meharry Medical College, Nashville, Tenn., 1907; died, Nov. 25, 1925.

Correspondence

"INTRAVENOUS USE OF DYES"

To the Editor:—In my article on this subject (THE JOURNAL, Dec. 12, 1925), the following statement is made: "It is unfortunately rather widely believed without, I think, any proof, that acriflavine injected into the blood stream leaves an impression on the serum which has been rendered, through contact with the dye, highly bactericidal. This belief is based on an experiment made by Browning, whose work is not to be lightly criticized, but the conclusion that he draws was, I am convinced, a curious case of misinterpretation."

I have just received from Professor Browning a letter in which he states that he had no intention of implying that the bactericidal properties observed after injection of diamino-acridine sulphate were due to anything else than the presence of acridine compound in the blood and no idea of suggesting that any mysterious bactericidal power was conferred on the serum as a result of injection of the dye. It is important that Professor Browning be correctly represented in this matter. It is also important to have it made clear that a wholly unsound chemotherapeutic conception, which appeared to rest on the authority of this distinguished investigator, arose from an unfortunate misunderstanding of his statements.

It is to be regretted that the title of the article of Browning and Gulbransen from which this misapprehension arose ("Bactericidal Properties Conferred on the Blood by Intravenous Injections of Diamino-Acridine Sulphate") is perhaps slightly ambiguous; and that the author's statement that this dye "is capable of rendering the blood serum antiseptic and of augmenting greatly its bactericidal power" was not sufficiently clear to avoid the possibility of the false inference which has, as a matter of fact, been actually drawn. I am glad to have Professor Browning's authority for stating that he had no intention whatever of advancing any such idea as has been attributed to him.

JOHN W. CHURCHMAN, M.D., New York.

CENTENARY OF DEATH OF LAËNNEC

To the Editor:—This year commemorates the hundredth anniversary of the death of a great physician, René Théophile Hyacinthe Laënnec, the discoverer of the stethoscope.

Laënnec has gained immortality because he opened a field for exploration and also for the reason that he laid the foundation stone of modern knowledge of diseases of the chest and their diagnosis by mediate auscultation, and not solely because he was the inventor of the stethoscope, although it is the first instrument in the hands of the medical tyro, and the constant companion of the physician throughout his medical career.

The glory of Laënnec is consecrated: it is inexhaustible. Time, the supreme judge, awing in its cold impartiality, increases each and every day the reputation of the one who has given to us auscultation: every physician the world over who auscultates the chest of a living being becomes by that very fact his disciple.

This great man died of phthisis, Aug. 13, 1826, at the age of 46.

I think that it is befitting that the American Medical Association, in some way or other, pay homage to the memory of the father of modern internal medicine, and that the Section on Practice of Medicine at the next annual session dedicate at least one of its papers to the discussion of the influence of his discoveries in the establishment of modern medicine, especially diseases of the chest, on its present basis of scientific achievement.

A. E. FOSSIER, M.D., New Orleans.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CALCIUM LACTATE TO HASTEN BLOOD COAGULATION

To the Editor:—Is there any reason for the discontinuance of 10 grains of calcium lactate every two hours for three days, on account of the lessening of the clotting of the blood?

Joseph Halton, M.D., Sarasota, Fla.

Answer.—This subject is still in a debatable and debated condition. While there can be no question that the intravenous injection of calcium salts accelerates the clotting of blood, most especially in certain conditions of delayed clotting, there is considerable doubt whether enough calcium is absorbed on peroral administration of calcium salts to affect appreciably the calcium content of the blood and its clotting time. The bare facts are that, while in some cases calcium salts seemed to be used successfully, it is admitted that the results are inconstant and temporary; that, indeed, the calcium may act inversely and increase the clotting time. This, the sponsors of calcium therapy assert, is liable to occur if the administration is continued for more than three days, and that hypercalcemia may lead to delayed clotting just as does hypocalcemia. Unfortunately for the establishment of this alibi, when calcium therapy fails, no one has as yet actually demonstrated a hypercalcemia after giving calcium salts by mouth in any quantity and for any length of time. Still, if one employs this treatment because of its harmlessness, one might as well follow the directions of those most familiar with it and give it for only three days at a time, as this cessation of the administration certainly will not harm the patient either.

INCREASING HEIGHT

To the Editor:—I wish to ask your advice in regard to a child of short parents. The father is about 5 feet and the mother about 4½ feet. They have a child 13 months old that looks short. I remember that Dr. Murphy taught that the thyroid controls the length of the long bones. Would I be justified in giving thyroid or other endocrine substances to this child to promote growth of the long bones?

C. D. Stratton, M.D., Rothville, Mo.

Answer.—Routine glandular therapy, various gland products being used alternately, has been alleged to have some beneficial effect, but there are few authentic reports. The pituitary is said to have value and also the pineal and suprarenal glands. Small doses of thyroid have been urged as enhancing the value of the other glands. The subject has been discussed by Engelbach and McMahon (Osseous Development in Endocrine Disorders, *J. Radiol.*) and also by Lewin and Jenkinson (*Am. J. Roentgenol.*, February, 1924). It must be remembered, however, that such use of glandular therapy is quite experimental and may be futile.

SENSITIZATION TO FOOD PROTEINS

To the Editor:—I would appreciate information regarding the desensitization of persons sensitized to food proteins. I have a 4 months old infant that is sensitized to milk proteins and shows a marked eczema. What dose of the offending protein extract should be administered, how often, and how much increased with each injection?

Charles B. Zipf, M.D., Freeport, Ill.

Answer.—Desensitization in a 4 months old infant is not advisable; it seems best to wait with any procedure of this nature until the child is 2 years old. In the meantime, goat's milk may be secured for the feeding of the child. Later on, dilutions of cow's milk should be made, and the initial dose given by mouth should be at least one one-thousandth of the concentration that still yields a skin reaction. This is then gradually increased.

The procedure might be adopted which is recounted by Bret Ratner (Eczema in Infancy Due to Protein Sensitization, *M. Clin. N. America* 9:817 [Nov.] 1925). In his case, the infant of 4½ months was found sensitive to milk, and the mother was recommended to boil all milk used in her own diet. The eczema in the infant cleared up. At the age of 6½ months, one drop of raw milk was given in a teaspoonful of warm water daily just before one of the breast feedings. The amount of raw milk was increased slightly over a long period. Other dietary difficulties were overcome, and the final result was good.

TRUSS FOR HYDROCELE

To the Editor:—Please advise me if a truss being used to cure a congenital hydrocele should be worn day and night, or just during the time when the patient is out of bed. Patient is a boy three years old. Please omit name.

M.D., Wis.

Answer.—If a truss is used for treating a congenital hydrocele, it must be worn day and night, because in this way only obliteration of the sac may be accomplished.

Book Notices

Handbuch der normalen und pathologischen Physiologie. Mit Berucksichtigung der experimentellen Pharmakologie. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden und A. Ellinger. Zweiter band. Atmung. Aufnahme und Abgabe gasförmiger Stoffe. Bearbeitet von K. Amersbach, G. Bayer, A. Bethe, A. Brunner, W. Felix, F. Flury, A. Geigel, W. Heubner, L. Hofbauer, G. Liljestrand, O. Renner, F. Rohrer, F. Sauerbruch, E. v. Skramlik, R. Staehelin. Paper. Price, 39 marks. Pp. 552, with 122 illustrations. Berlin: Julius Springer, 1925.

In this first volume of the series to appear as volume II (respiration), the editors explain why they were induced by the publisher to attempt this large task. Sixteen years have elapsed since the appearance of the last volume of Nagel's Handbuch der Physiologie, which dealt primarily with physiologic material. As the general title of the present endeavor indicates, the entire field of normal and pathologic physiology will be covered, including the pharmacology of the tissues or organs under discussion. The topics to be covered by the different volumes of this comprehensive handbook are: I, general physiology; II, respiration; III, digestion and the digestive apparatus; IV, resorption and excretion; V, metabolism and energy changes; VI, blood and lymph; VII, circulation of the blood; VIII, special organs and arrangements for changes of energy; IX, the central nervous system; X, special physiology of the centers of vertebrates; XI, receptors; XII, photoreceptors; XIII, organs of defense and offense; XIV, reproduction; the last three volumes, XV, XVI and XVII, deal with correlations: physiology and pathology of the organs supplying hormones, movement and equilibrium, orientation, heat regulation, water metabolism, sleep, senescence, constitution and heredity. No attempt has been made to indicate the multiplicity of subtitles in the various volumes or the great number of (essentially German) contributors. It is, of course, impossible to offer any sort of concise and critical review of the present volume. Fifteen recognized authorities discuss all known aspects of the subject: general and comparative anatomy, organs of respiration, physiology of the respiratory movements, physiology of the respiratory passages, respiratory sounds, pathophysiology of the respiratory passages, chemistry of the gaseous exchange, regulation of respiration, pathologic physiology of respiration, operative diminution of the lung, pharmacology of respiration, permeability of the lung for foreign substances, inhalation of dust, gas poisoning, and respiration in plants. A. Bethe, Flury, Heubner, Liljestrand and F. Sauerbruch are among the contributors to the various sections of the volume.

Post-Mortem Appearances. By Joan M. Ross, M.B., B.S., M.R.C.S., Assistant Pathologist to St. Mary's Hospital. Preface by E. H. Kettle, M.D., Professor of Pathology and Bacteriology, Welsh National School of Medicine, Cardiff. Cloth. Price, $2.50. Pp. 216. New York: Oxford University Press, 1925.

Dr. Ross describes the chief pathologic changes to be looked for in the bodies of persons dying from the common diseases and from poisoning. The accounts are necessarily brief, including only the typical changes and the gross appearances of the organs; but the essential facts are given in a clear manner. The book should be of value in the postmortem room, especially to one making occasional examinations, as the technic of performing the examination is described, as well as the lesions likely to be present in typical cases. There are tables of normal weights and measurements and a table of ossification of the bones useful for quick reference.

Bacteria in Relation to Soil Fertility By Joseph E Greaves, M S, Ph D, Professor of Bacteriology and Physiological Chemistry, Utah Agricultural College, and Ethelyn O Greaves, M S Cloth Price, $2 50 Pp 239, with 45 illustrations New York D Van Nostrand Company, 1925

Here is a successful attempt to explain, in simple language, the relation of bacteria to soil fertility After a general discussion of the structure and the biochemical activities of bacteria, the following subjects are discussed briefly but amply for the general reader soil formation, structure and composition, the nitrogen, sulphur and phosphorus cycles, nitrification, denitrification, and nitrogen fixation, manuring and irrigation as they affect bacteria in the soil, and soil fertility The book is attractively printed, illustrated and readable

Bailey's Text Book of Histology Revised and Rewritten by Oliver S Strong, A M, Ph D, Associate Professor of Neurology, College of Physicians & Surgeons Columbia University, and Adolph Elwyn A M, Assistant Professor of Anatomy Columbia University Seventh edition Cloth Price, $7 Pp 939, with 585 illustrations New York William Wood & Co, 1925

This edition, on account of the death of Dr Bailey, has been edited by Strong and Elwyn Strong has been in charge of the section on the nervous system in previous editions, and the high standard of quality which he had then set has been maintained in this Elwyn has undertaken the preparation of the remainder of the book, rewriting the sections on cytology and on tissue elements The illustrations include some new photographs and some figures taken from other publications

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender Selections will be made for more extensive review in the interests of our readers and as space permits

Aviation Medicine By Louis Hopewell Bauer, A B, M D, Major, Medical Corps United States Army, Commandant, the School of Aviation Medicine Published by authority of the Surgeon General Cloth Price, $7 50 Pp 241, with 35 illustrations Baltimore Williams & Wilkins Company, 1926

Qualifications and care of the flier, with especial consideration of effects of altitude

Life and Evolution An introduction to general biology By S J Holmes, Ph D, Professor of Zoology in the University of California Cloth Price, $3 50 Pp 449, with 227 illustrations New York Harcourt, Brace & Co, 1926

A book for the general student, well illustrated and suitable to those of college intelligence

Ears and the Man Studies in social work for the deafened By Annetta W Peck, Estelle E Samuelson and Ann Lehman With an introduction by Wendell C Phillips, M D, President Elect of the American Medical Association Cloth Price, $2 net Pp 217 Philadelphia F A Davis Company, 1926

Complete consideration of rehabilitation of the deafened, with good bibliography

The Principles and Practice of Endocrine Medicine By William Nathaniel Berkeley, Ph D M D, Recently Attending Physician at the Good Samaritan Dispensary, New York Cloth Price, $4 50 Pp 368, with 60 illustrations. Philadelphia Lea & Febiger, 1926

An attempt at complete consideration of our present knowledge of the glands of internal secretion, author presents abstracts from the literature with little critical consideration

Evolution, Genetics and Eugenics By Horatio Hackett Newman, Professor of Zoology in the University of Chicago Cloth Price, $3 50 Pp 639, with 99 illustrations Chicago University of Chicago Press, 1925.

Revised edition of a standard work, with a new chapter on the Scopes trial

Essays and Addresses on Digestive and Nervous Diseases and on Addison's Anaemia and Asthma By Arthur F Hurst, M A, M D, F R C P, Physician, Neurologist and Director of Advanced Studies, Guy's Hospital Cloth Price, $6 net Pp 306, with 64 illustrations New York Paul B Hoeber, Inc, 1924

Collected essays of a facile English writer on clinical subjects

Mental Invalids Being the Morison lectures delivered before the Royal College of Physicians of Edinburgh in June, 1925 By C C Easterbrook, M A, M D, F R C P E, Physician Superintendent, Crichton Royal, Dumfries Cloth Price, 5 shillings net Pp 86 Edinburgh Oliver & Boyd, 1925

Four lectures on psychiatric diagnosis, with a proposed classification

Medicolegal

Testimony About Roentgenogram Withheld from Witness

(Bachman v Quincy, O & K C R Co (Mo), 274 S W R 764)

The Supreme Court of Missouri, division 1, says that in this personal injury case the depositions of two witnesses were taken One of the witnesses was an expert roentgen-ray picture man He took a roentgenogram of the plaintiff, and said that he turned it over to the other witness, so that he could examine it and prescribe for the patient He testified that he took the roentgenogram, and as to what it showed as to the condition of the lower part of the spine The other witness testified that he got the roentgenogram from the first mentioned witness and examined it, and testified as to what it showed Both witnesses were from an osteopathic school of medicine and testified that the school kept all such roentgenograms, and would not permit them to take these out of the school, hence they did not have the roentgenogram while testifying There could be no question of the right of the first-mentioned witness to testify from his own knowledge as to what the roentgenogram taken by him showed So far as he was concerned, the roentgenogram was beyond his control Nor does the court think that the other witness, who showed his perfect familiarity with roentgenograms, was incompetent to testify what one showed, when he examined it in order to know what treatment to prescribe The fact that he did not have and could not get the roentgenogram did not preclude his evidence He told the defendant where the roentgenogram was, and the defendant could have had it at the trial The process of the court was open to the defendant, and the production of the roentgenogram could have been enforced

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19 23 Dr Olin West, 535 N Dearborn Street, Chicago, Secretary

Alabama, Medical Association of the State of, Mobile, April 27 30 Dr D L Cannon 519 Dexter Avenue, Montgomery, Assistant Secretary
American Association for the Study of Allergy, Dallas, April 20 Dr A H Rowe, 242 Moss Avenue, Oakland, Calif, Secretary
American Association of Pathologists and Bacteriologists, Albany, New York April 2 3 Dr H T Karsner, Lakeside Hospital, Cleveland, Secretary
American Gastro Enterological Association, Atlantic City, May 3 4 Dr John Bryant, 338 Marlborough Street, Boston, Secretary
American Orthopedic Association Atlanta April 26 28 Dr De Forest P Willard, 1630 Spruce Street Philadelphia, Secretary
American Proctologic Society, Indianapolis April 16 17 Dr William A Rolfe, 331 Beacon Street, Boston, Secretary
American Society of Clinical Investigation, Atlantic City, May 3 Dr J H Austin, University of Pennsylvania Philadelphia, Secretary
American Society of Clinical Pathologists, Dallas, April 15 17 Dr Ward T Burdick, Metropolitan Building, Denver, Colo, Secretary
Arizona Medical Association, Globe, April 25 27 Dr D F Harbridge, 407 Goodrich Building, Phoenix Secretary
Association of American Physicians, Atlantic City, May 4 5 Dr F W Peabody Boston City Hospital, Boston, Secretary
California Medical Association, Oakland, April 26 May 1 Dr Emma W Pope, 593 Market Street, San Francisco Secretary
Florida Medical [illegible] y 3 5 Dr Shaler Richardson 111 W Adam [illegible] etary
Hawaii Territor[illegible] olulu, April 25 28 Dr F J Pinkerton 46 [illegible] Secretary
Kansas Medical Society, Kansas City, May 4 6 Dr J F Hassig, 804 Elks Building, Kansas City, Secretary
Louisiana State Medical Society, Monroe, April 15 17 Dr. P T Talbot, 1551 Canal Street, New Orleans, Secretary
Maryland Medical and Chirurgical Faculty of, Baltimore, April 27 29 Dr J A Chatard, 1211 Cathedral Street, Baltimore, Secretary
Medical Women s National Association Dallas, April 18 19 Dr Lena K Sadler, 533 Diversey Parkway, Chicago, Secretary
New York, Medical Society of the State of, New York City, March 29 April 1 Dr D S Dougherty, 17 W 43d St, New York City, Sec'y
Oregon State Medical Society, Portland April 1 2 Dr F D Stricker, Medical Arts Building Portland, Secretary
South Carolina Medical Association, Sumter, April 6 8 Dr E A Hines, Seneca, Secretary

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Hygiene, Baltimore

6: 1-196 (Jan.) 1926

Measurement of Glare. B. A. Nowakowski, Baltimore.—p. 1.
Biometric Study of Infant Mortality in United States Birth Registration Area, 1919-1922. R. B. Tewksbury, Baltimore.—p. 32.
*Life Tables for Various Racial Groups in Hawaii. H. W. Kung, Baltimore.—p. 74.
*Mountain Malaria in Brazil. N. C. Davis, New York.—p. 119.
Endameba Blattae. R. Kudo, Champaign, Ill.—p. 139.
Resistance of Chicken to Ascaridia Perspicillum. C. A. Herrick, Baltimore.—p. 153.
Therapeutic Action of Quinine Hydrochloride and Certain Quinine Derivatives in Experimental Infections with Plasmodium Praecox. G. H. Boyd, Baltimore.—p. 173.

Vitality Statistics of Racial Groups in Hawaii.—From Kung's inquiry the following facts emerge: The Caucasian component of the Hawaiian Islands shows a mortality which stands lowest as compared with the other elements making up the population. Next, in the order mentioned, are the Japanese, the Chinese, the Filipinos, the Caucasian-Hawaiians and the Hawaiians. The infant death rate of the Filipino is higher than the Hawaiian death rate. The rates of mortality of the various racial groups are not alike in the same locality. The same races, in different localities, show a remarkable adherence to the same mortality rates.

Mountain Malaria in Brazil.—An examination was made by Davis of 201 persons living in railroad construction camps in the mountains. Thirty-nine infected individuals were found, of whom ten were gametocyte carriers. The predominant local anopheline mosquito was *A. bellator,* known in Brazil as *Anopheles* (or *Myzomia*) *luzi.* The presence in the locality of the following additional anopheline mosquitoes was verified: *A. eiseni* (*A. tibiamaculatus*); *A.* (*Myzorhynchella*) *luzi,* and *A.* (*Cellia*) *argyritarsis.*

California and Western Medicine, San Francisco

24: 33-144 (Jan.) 1926

*Nerve Mechanism in Production and Treatment of Certain Edemas: Rôle of Suprarenals in Preventive Effects of Certain Drugs. P. J. Hanzlik, San Francisco.—p. 33.
Regional Anesthesia. C. E. Phillips and R. H. Johnson, Los Angeles.—p. 37.
*Cesarean Section for Hemorrhage. R. K. Smith, San Francisco.—p. 39.
Differential Leukocyte Count in Acute Inflammatory Conditions of Surgical Importance. N. Evans and P. J. Tunnell, Loma Linda.—p. 41.
*New Technic of *Unmodified Blood Transfusion.* L. Brooks, San Francisco.—p. 44.
*Treatment of Herpes Zoster. H. P. Jackson, Los Angeles.—p. 46.
Antagonistic Functions of Uterus in Relation to Regional Nerve Blocking. G. T. Cooke, Los Angeles.—p. 55.
Urologic Cases in Women and Children. W. E. Stevens, San Francisco.—p. 57.
*Cholecystography: Value as Diagnostic Procedure. W. W. Boardman and Roger B. McKenzie, San Francisco.—p. 60.
Syphilis in Pregnancy. K. P. Frost, Los Angeles.—p. 63.
Plastic Surgery: Correction of Deformities of Nose and About Orbit. J. P. De River, San Francisco.—p. 64.
Type Treatment of Pulmonary Tuberculosis. S. J. Shipman, San Francisco.—p. 68.
Speech Defects and Disorders. M. F. Gifford, San Francisco.—p. 72.
Diagnosis of Absent Ureteral Calculus: Case. E. S. Pomeroy, Salt Lake City.—p. 74.
Transfusion with Universal Donor: A Fatality: Case. H. E. Butka, Los Angeles.—p. 74.
Primary Carcinoma of Liver: Two Cases. R. W. Langley, Los Angeles.

Nerve Mechanism and Edema.—The importance of a sensory mechanism in the development of chemosis, as indicated by the irregular and contradictory results in the literature, Hanzlik avers, has not been clearly demonstrated. Under controlled conditions, completely negative results have been obtained with mustard oil and ethylmorphine hydrochloride (dionin). There is no reason to believe that an axon reflex or a reflex arc (with peripheral synapse), exists and is indispensable to chemosis. Local anesthetics and nicotine, locally, do not prevent or inhibit chemosis from mustard oil and ethylmorphine hydrochloride, but circulatory depression from any cause whatever is known to prevent or reduce chemosis and edemas. On the other hand, favorable though unconfirmed results on human subjects are reported, indicating that the sensory mechanism is essential in the development of mustard dermatitis of the legs, and local anesthesia by infiltration with procaine inhibits the process independently of local vascular changes. The gross edema in the head and neck regions of rabbits and cats produced by the administration of paraphenylendiamine is due to increased vascular (capillary) permeability, independently of the sensory and motor nerve mechanisms, axon reflexes, etc., and of a number of other factors. This gross edema can be prevented by continuous injections of low concentrations of epinephrine and by drugs (strychnine, santonin, picrotoxin and nicotine) which increase the output of epinephrine from the suprarenals. The possibilities of using strychnine in the prevention and treatment of certain clinical edemas, and other features, are discussed.

Cesarean Section for Hemorrhage.—Among 4,002 obstetric cases occurring that were subjected to analysis by Smith prior to Dec. 31, 1922, placenta praevia—all forms—occurred twenty-eight times, with no maternal mortality and a fetal mortality of six, or 21 per cent.

Unmodified Blood Transfusion.—The method described by Brooks is a modification of the Kimpton-Brown method. The apparatus consists of paraffin coated tubes, needles with obturators, and a pressure suction bulb. The tubes are modifications of the Kimpton-Brown tubes with a capacity of 300 cc. A needle is inserted into the vein of the recipient and plugged by the proper obturator, which, because of the perfect fit, completely fills every part of the hollow of the needle, preventing loss of blood or, what is more important, the beginning of a clot in this needle while the blood is being drawn from the donor. Another needle is now inserted in the selected vein of the donor, usually at the elbow, the paraffin coated tube is attached, and by means of the pressure suction bulb, which is attached to the airway of the tube, a vacuum is created, and 300 cc. of blood can be collected in the average case in less than one minute. The tourniquet is now released, the tube is disconnected and held tip up, and this needle is plugged by the proper obturator. The pressure suction bulb is reversed. The obturator is removed from the needle in the recipient's vein, the paraffin tube is quickly attached and the blood is injected by means of the bulb. This method has been used by Brooks 178 times without a failure to transfuse the desired amount of blood. Both grouping and cross agglutination tests are done as a routine, and out of this number there have been only four reactions.

Red Light Treatment of Herpes Zoster.—Twelve cases of herpes zoster have been treated successfully by Jackson with red light. The most striking feature noted in the treatment was the rapid involution of the lesions, usually beginning after the first exposure to the light. The process of complete involution is accomplished in a period of from two to six days, depending on the severity and extent of the involvement. It consists of a desiccation of the contents of the vesicles with a conversion of the inflammatory products into thin, loosely adherent crusts which separate and fall off easily. Worthy of mention in connection with this treatment is the absolute arrest of the disease process and its extension when treatment is begun early. There is also absence of deep scarring and pigmentation even in the most extensive cases. The source of light is a 1,000-watt red globe, so adjusted that its rays will strike the lesions in a perpendicular direction. These exposures are repeated daily until the lesions are completely involuted.

Value of Cholecystography.—Boardman and McKenzie have made use of cholecystography in 109 cases; in four the dye was given rectally, in thirty-eight by mouth, and in sixty-seven intravenously. Rectal administration was soon abandoned, as the degree of absorption was too uncertain and considerable rectal irritation was produced by the dye. Of cases in which the dye was administered by mouth, seventeen showed normal visualizations, eleven incomplete and ten no shadows. In this group five patients have been operated on, three of whom gave no shadow, and two incomplete visualizations. In all five there was definite pathologic change in the gallbladder. Of the sixty-seven cases in which the dye was given intravenously, fifteen showed a normal reaction, twenty-six incomplete, twenty-five no shadows, and one patient suffered so severe a reaction with the tetrabromphthalein that no films were taken. Of this group of patients, fifteen have been operated on, seven having given no shadow, seven incomplete shadows, and one a normal shadow. In the latter case there was a definite chronic appendicitis, but the changes in the gallbladder were very slight. Of the remaining fourteen cases, all showed definite pathologic change. Among the cases in which operation was not done, the findings by this method have closely paralleled the conclusions reached by the other methods of study.

Canadian Medical Association Journal, Montreal

16: 1-120 (Jan.) 1926

Preventive Medicine. C. F. Martin.—p. 2.
Treatment of Pneumonia. J. C. Meakins.—p. 7.
Arteriosclerosis. O. Klotz.—p. 11.
Man's Structural Imperfections. A. Keith.—p. 19.
Osteopathy and Chiropractic. W. B. Thistle.—p. 23.
Effects of Anoxemia on Circulation. N. B. Dreyer.—p. 26.
Cancer and Race. A. C. Jost and M. A. Ross.—p. 30.
Use of Low Cervical Operations for Cesarean Section. L. C. Conn. —p. 32.
Acute Rheumatic Fever and Chorea in Children. H. C. Bussiere and L. J. Rhea.—p. 35.
Cecal Stasis. A. R. Munroe.—p. 40.
Possible Source of Error in Roentgen-Ray Findings of Normal Vertebral Column. A. O. Freedman.—p. 44.
Spinal Metastasis from Breast Carcinoma. L. J. Carter.—p. 48.
Photography as Applied to Dermatology. W. R. Jaffrey.—p. 51.
Trench Mouth. F. S. L. Ford.—p. 53.
Therapeutic Value of Roentgen Rays. A. H. Pirie.—p. 54.
Pseudobulbar Paralysis: Case. P. M. Macdonnell.—p. 57.
Lung Abscess Following Removal of Teeth Under General Anesthesia. C. A. Peters.—p. 57.
Food Anaphylaxis. J. C. Lindsay.—p. 58.

Journal of Bone and Joint Surgery, Boston

8: 1-246 (Jan.) 1926

Orthopedic Aspects of Chronic Arthritis. R. B. Osgood, Boston.—p. 1.
Spinal Osteo-Arthritis Involving the Cervical Region. G. R. Elliott, New York.—p. 42.
*Epiphyseal Coxa Vara or Displacement of Capital Epiphysis of Femur in Adolescence. J. A. Key, St. Louis.—p. 53.
*End-Result Study of Arthrodesis of Sacro-Iliac Joint for Arthritis. M. N. Smith-Petersen and W. A. Rogers, Boston.—p. 118.
Systematic Diagnosis in Backache. E. T. Wentworth, Rochester, N. Y. —p. 137.
Rôle of Tensor Fasciae Femoris in Certain Deformities of Lower Extremities. C. C. Yount, Pittsburgh.—p. 171.
*Behavior of Sequestrums in Chronic Osteomyelitis. A. Van Dessel, Boston.—p. 194.
Congenital Elevation of Scapula. R. D. Schrock, Omaha.—p. 207.
Apparatus for Postoperative Management of Guillotine Amputations of Thigh. R. M. Yergason, Hartford, Conn.—p. 216.

Epiphyseal Coxa Vara in Adolescence.—The history of the recognition of epiphyseal coxa vara as a definite clinical entity is sketched by Key. The term coxa vara is defined, and an anatomic and etiologic classification of the various types of coxa vara is given. The incidence is given, and the clinical picture and roentgenologic findings in epiphyseal coxa vara are described in detail. Twenty-four cases are reported. The pathologic specimens reported in the literature are reviewed and discussed. The true pathology is unknown, as no early specimen has been described. The various theories as to the etiology of the condition are critically reviewed, and it is suggested that the condition is due to a weakening of the periosteum binding the head to the neck of the femur. The cause of this weakening is unknown, but it is usually coincident with a period of unusually rapid growth during adolescence.

Result of Arthrodesis of Sacro-Iliac Joint.—In twenty-three of twenty-six cases reviewed by Smith-Petersen and Rogers there has been no pain since operation. Of the three remaining cases one showed a bilateral sacro-iliac traumatic arthritis. One side was operated on and relief of radiation pain resulted. There is still local and radiation pain present on the other side. Two patients complained of persistence of pain in the calf of the leg, but stated that this is far less severe than formerly and is decreasing. They have resumed their former occupations in full. Seven of the twenty-six cases have shown a stiffness in either the calf or hamstring muscles, or both, for varying periods of from two to six months after operation. In two of the twenty-six cases the results are failures.

Disposition of Sequestrum.—Van Dessel's experiments show that in the presence of infection completely separate sequestrums never unite to the newly formed involucrum or to the old bone. The zone of demarcation between the sequestrum and the involucrum, dead and alive, persists until complete disappearance of the former, i. e., the sequestrum. The difference lies in the conception of the sequestrum. If it is really free it must, according to experiments on rabbits, either be absorbed or expelled. It never unites with the new or old bone.

Kansas Medical Society Journal, Topeka

26: 1-36 (Jan.) 1926

Club Feet. H. R. Allen, Indianapolis.—p. 1.
Iodine and Goiter. H. N. Tihen, Wichita.—p. 4.
*Thyroid Survey of 7,051 Students in Grade and High Schools in Topeka. E. G. Brown, Topeka.—p. 8.
*Case of Diabetes Mellitus with Marked Lipemia. H. E. Marchbanks, Pittsburgh.—p. 12.

Thyroid Survey of Topeka School Children.—Brown found that 30.9 per cent of 3,345 boys and 49.7 per cent of 3,706 girls showed thyroid enlargement. Among the girls there was a gradual increase up to 13 and then a drop. Among the boys there was a gradual increase (except at the age of 9 years) to 10, and then a decrease. Among the boys, the greatest number of very slight enlargements was found at the age of 10, and among the girls, at 12. Moderate and marked enlargements occurred rarely. No cases of exophthalmic goiter were diagnosed.

Diabetes Mellitus with Marked Lipemia.—The urine of Marchbank's patient, a boy, aged 6, showed 4 per cent sugar, a large amount of diacetic acid and acetone. The blood had a rather gray, milky appearance and when allowed to stand for a short while the plasma looked like pure cream. The blood sugar was 286 mg. per hundred cubic centimeters of blood and the carbon dioxide was 10.7 per cent by volume. Under treatment with an appropriate diet and insulin, the blood sugar on the tenth day was 130 mg. and the carbon dioxide 50.2 per cent by volume. There was no sugar in the urine after the fifth day.

Nebraska State Medical Journal, Norfolk

11: 1-48 (Jan.) 1926

Gastro-Enterologic Diagnosis. A. D. Dunn, Omaha.—p. 1.
Relation of Psychic and Somatic. B. F. Bailey, Lincoln.—p. 4.
Some Causes of Death in Operations on Gallbladder and Bile Tracts. J. S. Welch, Lincoln.—p. 8.
*Three and One-Half Years' Experience with High Voltage Roentgen-Ray Therapy. A. F. Tyler, Omaha.—p. 12.
Obstetrics and Osteopath. E. C. Sage, Omaha.—p. 16.
Renal Tuberculosis. A. D. Munger, Lincoln.—p. 20.
Modern Aspects of Nutrition: Acid-Base Equilibrium with Reference to Pediatrics. V. E. Levine, Omaha.—p. 23.
*Dilatation of Esophagus in Cardiospasm. C. Emerson, Lincoln.—p. 33.
Treatment of Appendicitis by Roentgen Ray. W. L. Ross, Omaha.—p. 35.
Acrodynia. L. F. Egen, Hastings.—p. 37.

High Voltage Roentgen-Ray Therapy.—Tyler asserts that experience has proved that high voltage roentgen-ray therapy has a definite field in medicine. It is the greatest palliative agent known in the treatment of inoperable malignancies. It is the treatment of choice in fibroid tumors of the uterus no larger than 7.5 cm. in size. It is of great value in the treatment of Hodgkin's disease, splenomyelogenous leukemia, polycythemia, exophthalmic goiter and hypertrophy of the prostate. In accessible cases, radium can be combined with high voltage roentgen rays to advantage.

Dilation of Esophagus in Cardiospasm.—To secure a more complete dilatation than is possible even with the largest sized tube, Emerson employed a Barnes' rubber bag such as is used for dilation of the cervix in cases in which it is necessary to bring on a premature labor. A violin-shaped bag is passed into the stomach, and then under the fluoroscope, after injecting some barium into it so that it is visible, the bag is pulled back into the cardiac sphincter. The bag is then reinjected until it expands and stretches the sphincter as much as the patient can stand. It is left there an hour each day for three weeks; after that, at increasingly long intervals.

Northwest Medicine, Seattle

25: 1-56 (Jan) 1926

"Nervous Breakdowns" L F Barker, Baltimore —p 1.
Neurologic Studies in Psychotic Cases D G Dickerson, American Lake, Wash —p 10
Neurologic Conditions of Head. Early Diagnosis E Sachs, St Louis —p 14
Syndrome of Compression of Spinal Cord. H W. Woltman, Rochester, Minn —p 17.
Epidemic Encephalitis R M Bowell, Bonners Ferry, Idaho —p 25.
Physical Unfitness W. M. Anderson, Portland, Ore —p 28
Mucocele of Frontal Sinus M C Fox, Portland, Ore —p 30
Acute Suppurative Otitis Media. A W. Howe, Tacoma —p 33
Mediastinum as Focus of Infection W. L McClure, Yakima —p 36
Insulin Treatment of Diabetes Complicated by Duodenal Ulcer. B Holcomb, Portland, Ore —p 38
Mercurochrome 220 Soluble and Gentian Violet: Experimental Use Intravenously. W. J. Pennock and C Ferguson, Spokane —p 39
Granuloma Inguinale: Case. J F. Scott, Yakima —p 40
Transplantation of Ureters into Rectum or Bladder. W. J. Stater, Portland, Ore —p 41.
*Tenia Saginata: New Method of Treatment J S Saurman, Salem, Ore —p 42.

Treatment of Tapeworm.—By means of the duodenal tube Saurman administers nauseating drugs without distress to these patients, thus securing immediate and direct contact of an unchanged drug with the parasite, a quickly following deluge of bile, and a sweeping away by a strong saline solution of a stunned worm before sufficient recovery for reattachment.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

British Journal of Dermatology and Syphilis, London

38: 1-46 (Jan.) 1926

Cutaneous Striae, Purpura, High Blood Pressure, Amenorrhea and Obesity Not Caused by Suprarenal Tumor. F. P Weber.—p 1
*Treatment of Arsphenamine Dermatitis with Sodium Thiosulphate F. K. Chen —p 20.

Treatment of Arsphenamine Dermatitis with Sodium Thiosulphate.—Of ten patients with arsphenamine dermatitis seen by Chen, three have been treated with intravenous injections of sodium thiosulphate In each case there was rapid improvement in the signs and symptoms Solutions were prepared from sterile double distilled water on the day on which they were to be used When this precaution was not observed, quite severe reactions followed the injection. The drug was given in doses of from 0.3 to 0.6 Gm. in 10 per cent sterile aqueous solution, and repeated at daily intervals until improvement occurred

Irish Journal of Medical Science, Dublin

1 56 (Jan) 1926

Epidemiology of Tuberculosis W. D O'Kelly —p 4
Criticism of Modern Medicine V. M Synge.—p 20
Sequelae of Minor Head Injuries A A McConnell —p 29
*Case of Acholuric Jaundice Treated by Splenectomy and Epinephrine Injections D. A MacErlean —p 35

Splenectomy in Acholuric Jaundice.—The most striking clinical phenomena in the case cited by MacErlean were the rapid disappearance of the jaundice after splenectomy and the rapid subsidence of toxic symptoms after the administration of epinephrine There was a complete absence of axillary and pubic hair; the patient was 21 years of age, and menstruation had not occurred until the age of 18 The illness manifested itself for the first time at the age of 12 She was then jaundiced for three years The last attack had been of eighteen months' duration The symptoms included jaundice, enlarged spleen, a typical blood picture, with high color index and absence of nucleated red cells, the presence of normal gastric secretion, the absence of any nerve lesions, a positive van den Bergh test and a previous history of jaundice.

Lancet, London

1: 61 110 (Jan 9) 1926

Life Assurance Medicine Progress and Limitations O May —p 61
Functional or Organic Mental Disorders C P Symonds —p 64
*Treatment of Duodenal Ulcer C A Pannett —p 68
*Emetine in Treatment of Hepatic Abscess P. Manson Bahr and R M. Morris —p 69
*Disease of Cervical Spinal Cord Two Cases H Carlill and E R Carling —p 70
*Oxygen Deficiency Theory and Experimental Tetany. J A Campbell —p 72
*Ischemic Necrosis of Heart Muscle Showing Evidence of Embolism Elsewhere. G Klionski —p 74
Comparative Results in Infant Welfare A Hodgson —p 74

Duodenectomy for Duodenal Ulcer.—When operation is indicated in cases of duodenal ulcer, Pannett prefers partial duodenectomy to gastro-enterostomy. While he does not recommend the general adoption of partial duodenectomy for duodenal ulcers in the present state of knowledge, he insists that the results of gastrojejunostomy are not so satisfactory that there is no need to seek some improvement in the handling of these cases Partial duodenectomy has proved itself to be without undue risk

Use of Emetine in Treatment of Liver Abscess.—Manson-Bahr and Morris emphasize the fact that in the treatment of liver abscess emetine is to be used as an adjuvant to such a well established surgical measure as aspiration The rapid effect of emetine in acute amebic hepatitis is probably to be ascribed to the action of emetine on the amebas themselves, and the fact that none of these organisms was found in the liver pus after evacuation in the two cases reported may also be attributed to emetine; but there are no grounds for believing that, under ordinary circumstances, the administration of this drug in any way hastens or affects the absorption of pus which has already been formed within the liver

Disease of Cervical Spinal Cord.—Two cases of disease of the cervical spinal cord are reported by Carlill and Carling In each case there was present varying degree of subarachnoid block, as well as other features of much clinical interest One was a case of hypertrophic cervical syphilitic pachymeningitis, and the other a case of intramedullary cervical gliosarcoma

Oxygen Deficiency as Cause of Tetany.—Experiments described by Campbell support the oxygen deficiency theory of Morris in the etiology of tetany. It is shown that in many different experimental conditions in which tetany eventually occurs, the tissue oxygen tension is markedly decreased before the onset of the tremors It is shown also that muscular contraction causes a marked increase of oxygen tension in the tissues, and it is tentatively suggested that the purpose of the muscular contraction in tremors and convulsions is to supply oxygen at increased tension to the tissues

Ischemic Necrosis of Myocardium with Embolism Elsewhere.—In Klionsky's case, besides the precordial pain, there was a sudden loss of consciousness for two or three hours The next evening the man had amaurosis and right internal strabismus. The heart's action was weak, and there were no signs of valvular disease There was no paresis anywhere else at that time, but he complained of severe headache, especially in the occipital region, which continued for two or three days Examination of the fundi showed multiple hemorrhages and extensive edema of both retinas. The systolic blood pressure was 110 mm of mercury. No abnormality was detected in the urine. The blood urea was normal and the Wassermann reaction negative. The roentgen ray showed slight enlargement of the first part of the aorta There was no history of rheumatic fever. The patient gradually recovered, the retinal edema slowly disappeared, and the hemorrhages became absorbed The strabismus also soon disappeared Klionsky feels that this case illustrates a sequence of events somewhat as follows: atheroma of the first part of the aorta, with probable involvement of the coronary arteries; either thrombosis of a branch of a coronary artery or embolism due to the separation of a small plaque in the aorta; ischemic necrosis of the heart muscle supplied by that branch, deposition of clot on the inner surface of the heart wall, resulting in the formation of emboli in the brain (one causing strabismus) and in the retinal arteries (causing hemorrhages, with secondary retinal edema)

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 1-31 (Jan. 8) 1926

*Syphilitic Meningoradiculitis with Xanthochromia. Hudelo and Mouzon. —p. 5.
*Cancer of Esophagus and Radium. J. Guisez.—p. 8.
Serum Treatment of Meningo-Ependymitis. Vialard and Darleguy.—p. 14.
*Eight Observations of Phrenicotomy. E. Sergent et al.—p. 20.

Syphilitic Meningoradiculitis.—Hudelo and Mouzon describe a case of meningoradiculitis chiefly localized in the lumbosacral region. It appeared in the fourth year of syphilitic infection in a man, aged 27. Pain, paresis and anesthesia in the legs were the clinical features. There was no paralysis of the sphincters, usually present with the cauda equina syndrome, but there was yellowish discoloration and rapid coagulation of the cerebrospinal fluid, the Froin syndrome. In the case reported, great improvement was realized under treatment continued regularly during the six years to date. The cerebrospinal fluid is limpid but the syphilitic reactions are still pronounced.

Radium in Cure of Cancer of the Esophagus.—Guisez' six patients with cured cancer of the esophagus had found swallowing more and more difficult until it became impossible. Under radium treatment, deglutition became normal and the malignant tumor completely healed. In two the recovery has persisted for fourteen years. One of them, a physician, celebrated recently his eightieth birthday. Other cases date from two to thirteen months. An improvement in ability to swallow was manifest after one or two applications of the radium. At least 0.1 Gm. of radium bromid, in two or three tubes, end-to-end, were applied every second day for ten or twelve hours, to a total of five or six applications. Guisez emphasizes that a long catheter should be used for introduction of the radium into the esophagus. The radium tubes should cover the whole area of the stenosis, and the filters should be thick, to arrest the secondary rays. Complete impermeability, metastases, paralysis of the laryngeal nerve and cachexia are contraindications for the radium treatment. The good results are ascribed to the fact that cancer of the esophagus is usually of the basal-cell type, more responsive than any other to the radium.

Eight Cases of Phrenicotomy.—Sergent, Baumgartner and Bordet's eight cases include two of pulmonary tuberculosis, four of bronchiectasis and two of abscess of the lung. Phrenicotomy appears to be rather a benign operation. No grave complications occurred in Alexander's 240 cases, nor in the eight here reported. Nevertheless a fatal outcome has been recorded in a few instances; two in Leriche's extensive experience; one patient died during the operation, the other the next day. The process of cicatrization after phrenicotomy may be very slow. Notable improvement may not be manifest until six or eight months, or even a year afterward. In Rist and Chauffard's cases the patients improved after one or two months. The therapeutic results of phrenicotomy depend on the pushing up of the diaphragm. No real improvement can be expected as long as the paralyzed half of the diaphragm does not rise more than 2 cm. This rise may be retarded by stiffness of the lung or pleural adhesions; and an intercurrent complication may entirely annul the results of the operation. Retention of secretions may be one of these complications. The effect of phrenicotomy is best in unilateral pleuropulmonary lesions restricted to the inferior pulmonary lobe. It is possible that rupture of an intrapulmonary abscess, which might occur with induced pneumothorax might be avoided by phrenicotomy.

Comptes Rendus de la Société de Biologie, Paris

93: 1401-1460 (Dec. 11) 1925. Partial Index

*Local Vaccination. Brocq-Rousseu et al.—p. 1403.
Latent Period in Experimental Hermaphrodism. A. Lipschütz.—p. 1409.
Endocrine Activity of Ovarian Grafts. Voss.—p. 1411.
*Diabetes Insipidus in Neurosyphilis. L. Babonneix and J. Lhermitte. —p. 1415.
Flocculation Test in Syphilis and Tuberculosis. A. Vernes et al.—p. 1425.
"Transmissible Autolysis." Reply. J. Bordet.—p. 1432.
Typhoid Bacillus and Oysters. S. Costa et al.—p. 1439.
*Visualization of Coronary Arteries. Rouslacroix.—p. 1446.
Arterial and Venous Tension. L. Payan and E. Giraud.—p. 1447.
Center for Epinephrine Secretion. Houssay and Molinelli.—p. 1454.
Action of Insulin on Basal Metabolism. Castex and Schteingart.—p. 1459.

Local Vaccination Against Streptococcus.—Brocq-Rousseu, Urbain and Barotte inoculated guinea-pigs with filtrates of streptococcus cultures from glanders in horses. The experiments demonstrated that these cultures contain Besredka's antivirus, the same as cultures of streptococci from man. The immunizing action of the filtrates was manifest with intradermal injections, and still more when applied as a dressing. All other ways of injection proved ineffectual. With a dressing applied to an erosion on the abdominal wall, the animal became immunized in eighteen hours against several lethal doses of the streptococcus, injected subcutaneously. The immunization is local since no antibodies could be detected in the serum of the vaccinated.

Diabetes Insipidus from Neurosyphilis.—Babonneix and Lhermitte observed a case of diabetes insipidus occurring after operation for cancer of the breast in a syphilitic woman, aged 42. Necropsy revealed a specific basilar meningitis and lesions in the infundibulum and tuber cinereum. The pituitary seemed to be normal. Polyuria of uncertain origin suggests antisyphilitic treatment.

Visualization of Coronary Arteries by Iodized Oil.—Rouslacroix has obtained clear roentgenograms of the coronaries and all their branches by using injections of iodized oil. A dose of 2 cc. is injected in each artery. He believes that this method might be utilized in study of heart disease in which the coronaries may be involved, as in certain arrhythmias or angina pectoris.

Presse Médicale, Paris

34: 33-48 (Jan. 9) 1926

*Filtrable Form of Tubercle Bacillus. F. Bezançon and Philibert.—p. 33.
*Prognosis of Pulmonary Tuberculosis. A. Pissavy.—p. 35.
Spontaneous Metatarsal Bone Tumor. A. D. Radulesco.—p. 37.

Rôle of Nonacid-Resisting Tubercle Bacilli.—Bezançon and Philibert agree with Kuss, Bernard and Debré that the part of the filtrable nonacid-resisting bacillus is insignificant in hereditary tuberculosis. Its rôle may be different in contagion. Numerous clinical facts demonstrate that contagion occurs from it even with sputum free from acid-resisting tubercle bacilli. Further research may reveal the part of the filtrable bacillus in contagion, and indicate new prophylactic measures against tuberculosis.

Prognosis of Pulmonary Tuberculosis.—Pissavy cites Guinard's observations made for ten years on tuberculous subjects treated in one sanatorium. Patients in whose sputum the tubercle bacillus was constantly present all died within ten years—73 per cent of them in less than three. The mortality among those in whose sputum the bacillus was found from time to time or exceptionally was from 40 to 60 per cent. Naveau's records showed that the mortality among tuberculous patients with an induced pneumothorax was 45 per cent within the first three years; 51 per cent within five years and 71 per cent within ten years. The induced pneumothorax thus seems to be effectual for about three years; later than this the mortality is about the same among those treated with pneumothorax or otherwise. Pissavy suggests to classify cases by the number of tubercle bacilli in the sputum, that is, to make a distinction between those with many and those with few.

Pratica Pediatrica, Turin

2: 289-320 (Oct.) 1925

Examination of the Tongue in Children. G. B. Allaria.—p. 289.
Vaccine Therapy in Pneumonia. G. P. Porta.—p. 301.
*Febrile Acetonemia in Children. E. Modigliano.—p. 304.

Acute Acetonemia.—Modigliano has encountered in the last two years about 100 cases of an acute febrile acetonemia in children. There was no vomiting, and the symptoms subsided when cow's milk was dropped or breast milk feedings restricted, and sodium bicarbonate was given by mouth and rectum. In one case the fever kept up for a week, notwithstanding these measures. Then he learned that cow's milk was being surreptitiously given besides; when this was stopped recovery was soon complete.

Semana Médica, Buenos Aires

2: 877-944 (Oct. 8) 1925

*Staining the Tubercle Bacillus. A. F. Poiré and M. Arzeno Carranza. —p. 877.
*Primary Cancer of Common Bile Duct. D. Mosto.—p. 923.

*Nephrosarcoma in Infant. E. Foster and J. R Mendilaharzu —p. 926
Subconjunctival Injections of Copper Sulphate in Trachoma. Lijó Pavia and M Dusseldorp —p 930
Congenital Laryngeal Stridor. M. Pacheco —p 933

Improved Staining Technic for Tubercle Bacilli.—Poiré and Carranza give the details of sixty-one different methods that have been published for staining tubercle bacilli in sputum; also of seventeen methods which aim to stain the chromophile granules. They tabulate the findings in 558 cases in which the Ziehl-Neelsen, the Schulte Tigges, the Konrich, the Lesieur and the Kuhne methods were applied parallel to their own method. They claim for the latter technic that it requires seconds instead of minutes, as with the best of other methods, and it stains the background without interfering with cytologic examination. The Schulte-Tigges and the technic here described showed three times as many bacilli as the Ziehl-Neelsen, and both gave positive findings in 15 per cent more of the cases. The main features of the Poiré-Carranza method are that the sodium sulphite is heated to 80 C. (it works then as rapidly as nitric acid), and the counterstaining is with a dilute solution of methylene blue. The specimen is slowly heated, but never above 60 C. A bibliography of 716 international titles is appended.

Primary Cancer of Common Bile Duct.—Analysis of the necropsy findings in Mosto's two cases confirm the necessity for suspecting malignancy in all cases of persisting retention of bile.

Embryonal Nephrosarcoma in Infant.—The child seems to be thriving now, a few months since the tumor in the left side was treated with radium at the age of 14 months. The tumor was palpated from the spine to the iliac crest and beyond the median line. It was movable and was not tender, and seemed to be round, with a diameter of 10 cm. at least. Foster and Mendilaharzu had two tubes of radium buried in the tumor through a laparotomy incision; they were left for twenty-four hours. Except for slight fever for five days, no untoward reaction was observed, and in a week the tumor had subsided to a third of its former size. In two weeks not a trace of the tumor could be palpated and this continued for three months, when the tumor became manifest again, but smaller and lower than before, and it subsided anew under repetition of the radium treatment. The child (male) is now 22 months old and weighs 11,760 Gm. Two roentgen-ray exposures have been given in the interim.

2: 1137-1204 (Nov. 5) 1925

*Anemia as Factor in Angina Pectoris R. A. Bullrich —p 1137.
Plague Meningitis J. R. Paso —p 1139
*Absence of Clavicles J. P. Garrahan and J C Achinelly —p 1151.
Case of Closed Pyonephrosis Landivar and Ruiz —p 1157.
*Pancreatic Fistula. N Lopez Isnardi and J. Zanardo —p. 1166
*Chronic Rheumatism E. Pietranera —p 1170
Sanocrysin for Treatment of Tuberculosis Arreguine —p 1176
Enteropathies from Putrefaction; Treatment E S Weiler.—p. 1178.
Prof. G Marinesco. M Samovici —p 1183.

Aggravating Influence of Anemia on Angina Pectoris.—Bullrich has encountered two new cases during the past year, in addition to the five on which he based his recent statements in regard to the injurious influence of anemia on the development and course of angina pectoris. The fatal angina pectoris developed in pernicious anemia in one, and in the course of syphilitic vascular disease in the other, both middle-aged women.

Cleidocranial Dysostosis.—There were four cases in the family described, including the father. His fontanels had never become normally ossified; the lack of clavicles had never inconvenienced him. The Wassermann test was positive in one boy, negative in the others.

Pancreas Fistula.—The long pedicle left after the cyst in the pancreas had been sutured to the skin, five months before, was implanted in the stomach as the fistula refused to heal. No by-effects have been observed, and if the gastric secretion should be depressed by such an operation it would be a simple matter to give hydrochloric acid. Eight illustrations show the technic applied.

Chronic Rheumatism.—Pietranera argues that chronic rheumatism is a malady of complex origin, liable to occur at any period of life, even intra-uterine. It develops insidiously until summation of causal factors—temporary or permanent—entails accumulation of a plastic substance in the soft parts from sluggish expulsion of waste products. This accumulating plastic substance acts like a foreign body, mechanically impeding the vital processes.

Deutsche medizinische Wochenschrift, Berlin

52: 93-132 (Jan 15) 1926

*Pyemia After Tonsillitis E Fraenkel —p 93
Stomach, Liver and Pancreas W Arnoldi and M Schechter.—p. 96
Fractional Examination of the Stomach O. Rompe —p 97.
Roentgen Ray Dosage G Gabriel —p 99
*Glycemia in Rabbits II M Levai and O Waldbauer —p 101.
Pluriglandular Changes with Pituitary Tumors J. Szantó —p. 103
Malformations of the Omphalomesenteric Duct B Wollmann —p. 105
*Softening Principle in Treatment of Glaucoma C Hamburger —p 106.
Registration of Intestinal Temperature Van der Reis —p 108
Physics of Spongiosa Bone C Gocke —p 108
Pregnancy Disturbances B Aschner —p 109.
Management of Delivery with Contracted Pelvis A Heyn —p 111.
Treatment of Fever in Childbirth E Zweifel —p 113.
Gymnastics for Women G Kaboth —p 114
Psychology and Philosophy Abroad T Ziehen —p 118 C'cn.
Tuberculosis of Testis and Epididymis E Wehner —p 128 C'cn

Pyemia After Tonsillitis.—Fraenkel made necropsies in fifteen cases of pyemia following tonsillitis It usually begins by direct infection of the tonsillar veins, which may progress continually into the jugular vein, or may leave parts of its path free. Anaerobic bacteria were one of the important causes; streptococci and pneumococci were found in other cases. Pyemia originating in the lymph nodes is rare Chills may be absent. Tenderness of the side of the neck is frequent. Ligation of the jugular vein seems rational, but all the six patients in his experience on whom it was performed died.

Blood Sugar Regulation in Rabbits.—Lévai and Waldbauer were able to influence the blood sugar level in rabbits by injecting various drugs and hormones Administration of insulin mixed with calcium or parathyroid prevented convulsions.

The Softening Principle in Treatment of Glaucoma.—Hamburger lowered the intra-ocular tension in a case of glaucoma by cauterization of two points of the upper limb of the cornea with silver nitrate. Inflammations lower the eye tension—contrary to what occurs in other tissues.

Medizinische Klinik, Berlin

22: 81-120 (Jan. 15) 1926

*Glycolysis, Insulin and Coferment. Brugsch and Horsters —p 81
*Strengthening Action of Drugs by Fractioning Gordonoff —p 84.
Insulin and Social Insurance. P. Mahler.—p. 90
Varioloid W. Trégonneau —p 91.
Dressing the Navel in the New Born. R. Zimmermann —p 92
The Hemogram. R. Köster and Brase —p 93
*Studies in Herpes P. Rezek —p 95.
*Bock's Microscopic Hormone Test M Berek —p. 99
Valvular Defect and Occupational Injury. Von Schnizer —p 102.
Electrophysical Treatment B Berliner et al —p 105
Survey on Psychology, etc. W. Stekel —p 106 C'cn, p 148
Quéry's Serum Treatment of Syphilis F. Pinkus —p. 119.

Glycolysis, Insulin and Coferment.—Brugsch and Horsters report experiments which speak for the significance of insulin as a coferment of synthesis of a hexosediphosphate. It acts by changing glucose into a labile isomer. The hexosediphosphate of the muscle (Embden's lactacidogen) is not identical with the analogous compound that forms in fermentation of yeast. Insulin does not act as a coferment in the latter reaction, although Virtanen has found that it reactivates lactic acid bacilli freed from their coferment. They found at least 100 units of insulin per hundred grams of muscle in dogs eight to fourteen days after pancreatectomy, and believe that the muscles produce it. They believe that the insulin which occurs wherever the plant builds starch is identical with the insulin of animal origin. They found 100-200 units per hundred grams of acorns, wheat, corn, etc. They hope to be able to produce a much cheaper insulin from such sources.

Strengthening the Action of Drugs by Fractioning.—Gordonoff reviews the results of investigations made by Bürgi's school on the action of divided doses. If the interval is short—for example, only five minutes—two half doses of urethane produce a twofold stronger effect than the whole dose given at one time. Burgi explains it by the inability of cells to take up in a definite period of time more than a definite amount of the substance. Similar results have been obtained with other drugs, and on the isolated hearts of animals. The principle might be used in treatment of morphine addicts—giving half the previous dose divided in two portions, administered at a short interval.

Studies in Herpes.—Rezek reports an auto-observation on herpes simplex which recurs every four to eight weeks. His wife had the first herpes in her life after a year of marriage. Transmission to the rabbit cornea, and production of herpes encephalitis proved successful.

Bock's Microscopic Hormone Test.—Berek investigated Bock's claims from the physical standpoint. The casual initial position of the anisotropic crystals decides as to the degree read on the analyzer. He regards the easy proof of the presence of anisotropic substances in the blood as the only valuable feature of the method, but he emphasizes Bock's good faith and willingness to help in the investigations of his claims.

Münchener medizinische Wochenschrift, Munich

73: 91 134 (Jan. 15) 1926

Prognosis of Tuberculosis. Baumler.—p. 91.
*Ether Treatment of Postoperative Bronchitis. H. Seidl.—p. 95.
Immunization Against Cancer. V. E. Mertens.—p. 97.
*Fluorescence of Oil After Irradiation. J. Becker.—p. 99.
*Three Theses on Neuroses. S. Loewenthal.—p. 99.
*Inhibition of Growth of Sprouts by Serum. M. Stern.—p. 101.
*Treatment of Gastric Ulcer. J. C. Lehmann.—p. 101. Reply. Morawitz.—p. 107.
*Hemorrhage from Gastric Ulcer. E. Schwarz.—p. 104.
"Treatment of Gastric Ulcer." E. Konig.—p. 106.
Photographic Copies of Reprints. W. Arndt.—p. 107.
*Treatment of Tuberculosis. A. Herrmannsdorfer.—p. 108. C'cn.
The Physician and the People's Health. E. Liek.—p. 112.
Examination of Infant's Nurse. M. Klotz.—p. 116.

Ether Treatment of Postoperative Bronchitis.—Seidl had fine results with Bier's method in forty-six cases of postoperative bronchitis. The method is dangerous with bronchopneumonia. He injects daily a solution of ether and olive oil (0.5 Gm. of each) with addition of a local anesthetic. He considers the method the treatment of choice and explains its action as shock, produced by products of local coagulation of proteins of the patient.

Fluorescence of Oil After Irradiation.—Becker found that vegetable oils acquire after irradiation with a quartz lamp a yellow fluorescence similar to that of cod liver oil.

Three Theses on Neuroses.—Loewenthal maintains the following: 1. A true traumatic neurosis in Oppenheim's sense does exist, although it is rare. 2. Neurasthenia is a congenital deficiency, and is never due to mental strain alone. 3. Hysteria originates on a constitutional basis by wrong direction of the will.

Inhibition of Growth of Sprouts (Lupines) by Otosclerosis Serum.—Stern found an inhibition of the growth of *Lupinus albus* in the serum from patients with otosclerosis, cancer, and especially tuberculosis.

Treatment of Gastric Ulcer.—Lehmann agrees with the authors who incriminate a chronic gastritis as cause of ulcers. The main aim should be a preventive regulation of the diet in subjects predisposed to ulcer.

Hemorrhage from Gastric Ulcer.—Schwarz attributes the hemorrhage following surgical interventions on the stomach to unnecessarily rough manipulation by the surgeon. Internal measures will arrest slight hemorrhage. An early second intervention is indicated with profuse postoperative hemorrhages. With grave spontaneous hemorrhages, he also advises not to wait too many hours.

Treatment of Tuberculosis by Transmineralization.—Sauerbruch decided to try Gerson's dietetic treatment of tuberculosis. They report together with Herrmannsdorfer very favorable results in tuberculosis of skin and in lupus, and fair results in tuberculosis of the lungs and bones. Gerson discards sodium chloride, canned and smoked food, restricts meat and strong condiments, and recommends milk, fats, plenty of fresh fruits and vegetables, flours, eggs, rice, oatmeal and sugar. He gives daily 45 Gm. of cod liver oil with addition of phosphorus (phosphorus, 0.025; cod liver oil, 300) and a mixture of mineral salts.

Zeitschrift für Geb. und Gynäkologie, Stuttgart

89: 211 496 (Dec. 18) 1925

*Rupture of Uterus with Tear in Bladder. M. Hagenbuch.—p. 211.
Pathogenesis of Puerperal Eclampsia. G. Acconci.—p. 229. Treatment.—p. 253.
Mixed Mesenchymal Tumor of Body of Uterus. O. Ritter.—p. 266.
*Supreme Importance of Dilatation Period in Childbirth. B. Aschner.—p. 272.
The Kyphoscoliosis Heart and Gestation. H. Heidler.—p. 294.
*The Vaginal Flora at Term in Prognosis. H. O. Neumann.—p. 303.
The Appendix and Dysmenorrhea. G. Burckhard.—p. 320.
Laceration of the Tentorium. H. Glatz.—p. 325.
Tumors and Tuberculosis of Deformed Uterus. T. Brandess.—p. 341.
*Urobilinogenuria in Pregnancy. W. Schiller and F. Ornstein.—p. 352.
Research in the Netherlands on the Onset of Menstruation. L. Bolk.—p. 364.
Ovarian Pregnancy. P. Steinweg.—p. 380.
Kielland's Operation for Genital Prolapse. Sachs.—p. 384.
*Bladder Made from Sigmoid Loop. P. Strassmann.—p. 406.
*Action of Radium on Carcinoma Cell. Philipp.—p. 431.

Rupture of Uterus with Laceration of Bladder.—Hagenbuch tabulates fifty-two cases from the records and describes one personal case. In the thirty-five since 1905, 40 per cent terminated in recovery.

The Prognosis of Childbirth.—Aschner declares that we have been mistakenly attributing to contracted pelvis disturbances which in reality are due to the soft parts, especially delayed and defective dilatation. The efforts for dilatation are what exhausts the woman and every means should be applied to facilitate the dilatation. The most effectual and least harmful method to accomplish this, he says, is to dilate the external os with the fingers or entire hand when the cervix is unfolded. By applying this measure at the proper time, many complications and interventions can be avoided, as he has established by analysis of 364 deliveries treated on this principle. Combined with a little pituitary extract and a few whiffs of ether, the childbirth approximates the ideal of painless delivery. An abnormally protracted and painful childbirth is not a natural process, and hence requires more than to be left to Nature alone. The great frequency of constitutional anomalies and what he calls domestication injuries explain the relative frequency of these soft-parts disturbances and abnormal labor conditions even without appreciable anatomic anomalies. Since he has been applying this principle to all elderly primiparas, and in cases with premature rupture of the membranes or abnormal labor pains, he has had no instances of puerperal infection, laceration of the cervix or other injury to mother or child.

The Vaginal Flora at Term.—Neumann found that only 36.50 per cent of 400 parturients had pure cultures of the Doderlein bacillus in the vagina (purity I) as term approached, and the morbidity in this class (free from complications) was 4 per cent. It was 5.5 per cent in the purity III class which formed 42 per cent of the total.

Urobilinogenuria in the Pregnant.—Schiller and Ornstein state that an intact tubal pregnancy does not entail urobilinogenuria any more than a normal pregnancy. Its appearance indicates that there is or has been in the last two or three days extravasation of blood. But after the hematoma becomes organized and encapsulated there is no further elimination of urobilinogen by the urine.

Transposition of Sigmoid Loop to Make New Bladder.—Strassmann reports the successful outcome of reconstruction of the bladder out of the sigmoid flexure in a case of inveterate vesicovaginal fistula with contracted bladder from chemical corrosion (self-treatment for leukorrhea). He summarizes the instances on record of bowel-urinary apparatus plastic operations, adding that the sigmoid loop seems by far the best adapted for reconstruction of the bladder, judging from the experiences to date.

Action of Radium on Carcinoma Cell.—Philipp reports experiences which refute the assumption that radium ever exerts a stimulating action on the growth of cancer cells. His findings confirm, however, that there can be no standard dose; each case has to be treated individually.

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RADICAL PHRENICOTOMY FOR PULMONARY TUBERCULOSIS *

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Phrenicotomy, or simple division of the phrenic nerve in the cervical region, was first suggested by Steurtz for lower lobe tuberculosis in 1911, but little interest was manifested in the therapy of this procedure till Goetze[1] and Felix[2] reported (early in 1922) the results of their extensive research work on phrenicotomy. The latter authorities showed that the hemidiaphragm does not remain completely paralyzed after simple section of the phrenic nerve in from 25 to 30 per cent of cases, owing to failure of interception of an accessory phrenic nerve which joins the main nerve below the first rib, and each devised a "radical phrenicotomy," which would also interrupt this accessory nerve, as well as any connecting cervical sympathetic fibers of the phrenic nerve, with resultant permanent paralysis of half the diaphragm.

Goetze isolates the phrenic nerve in the neck down to the inferior cervical ganglion, where he removes about a 2 cm. section, and resects a similar segment of the accessory phrenic nerve, which he identifies anterior to the fifth cervical nerve root.

The "phrenicus exeresis" operation of Felix is a little more radical but the more popular and commonly performed procedure in phrenicotomy. It consists in an avulsion of the cervical and upper thoracic portion of the nerve (beyond the accessory phrenic junction) by very slowly twisting out the nerve around forceps. Alexander[3] states that one may feel reasonably confident with a 12 cm. phrenic avulsion of breaking the connection between the main and accessory nerves, which occurs about 7 cm. below the first rib.

The result of operation is an atonic complete paralysis of half the diaphragm, which rises into the thorax and becomes immobile; but the height of the ascent is largely dependent on the amount of diaphragmatic pleural adhesions, and to a lesser extent on the degree of basal pulmonary fibrosis. The diaphragm rises from 2 to 4 cm. after simple phrenicotomy, but motion returns in the large majority within three months. Felix found the average differences in height between the two sides of the diaphragm after radical exeresis to be 7 cm. at the end of inspiration and 3 cm. at expiration. (The diaphragm is normally 2 cm. higher on the right side.) Goetze states that the permanently paralyzed diaphragm may continue to rise into the chest as long as six months after operation, as the result of increasing atrophy together with the differences between the intra-abdominal and the pleural pressure.

German observers report that the lung volume in favorable cases is not infrequently reduced from one quarter to one third by radical phrenicotomy. This, with the curtailment of diaphragmatic activity, causes a certain degree of pulmonary relaxation and associated rest.

Phrenicotomy is a minor and relatively simple procedure easily performed under local anesthesia. An oblique incision, about 5 cm. long, along the posterior border of the sternomastoid, with its midpoint 5 cm. above the clavicle, is usually employed. (Alexander advises a 6 cm. transverse incision extending laterally from this muscle 6 cm. above the clavicle as being equally satisfactory and leaving much less scar.) One then passes through a small area, containing a little fat and occasionally a lymph node, laterally between the sternomastoid and scalenus anticus muscles. The nerve is identified running slightly oblique and internal in the fascial investment on the anterior surface of the scalenus anticus muscle; it is then freed from the fascia after procaine injection and infiltration about the third, fourth and fifth cervical roots, and slowly avulsed for at least 12 cm.

Hemorrhage from the thorax along the phrenic tract due to injury of the phrenic vessels, and from trauma to the cervical arteries or veins, section of the vagus nerve by mistake, and air embolism (Sauerbruch[4]) are complications reported after nerve exeresis, but such accidents are relatively infrequent. Hemoptysis occurs occasionally. Brunner thinks this is probably due to the passive congestion that follows the rise of the diaphragm with pulmonary relaxation, while others believe it results from the tugging of an adherent nerve on tuberculous lesions during extraction. I have observed hemoptysis after two of our nerve extractions without other symptoms which persisted for several days.

Cardiac and respiratory disturbances manifested by rapid (or slow), weak pulse and cardiac pain with dyspnea are not uncommon during extraction of the nerve, especially in far advanced cases with extensive pleural adhesions; if any of these symptoms reach any degree of severity, Felix warns against completion of the extraction, and advises in such patients, as well as those with cardiac disease, the removal of only a short section of the nerve. Alexander suggests in these cases, and also when the nerve breaks before the desired segment is avulsed, that the accessory phrenic be sectioned on the fifth cervical root (Goetze). Dyspnea is uncommon after phrenicotomy except in far advanced cases, although such may occur to a slight degree on exertion for a short time.

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* From the Fitzsimons General Hospital.

[1] Goetze, Otto: München. med. Wchnschr. **69**: 838, 1922.

[2] Felix, Willy: Deutsch. Ztschr. f. Chir. **171**: 283, 1922.

[3] Alexander, John: Am. Rev. Tuberc. **10**: 27 (Sept.) 1924; Surgery of Pulmonary Tuberculosis, 1925.

[4] Sauerbruch, F.: München. med. Wchnschr. **70**: 693, 1923.

Clinically, phrenicotomy effects a reduction of cough and sputum with improvement of the general condition, directly dependent on the location of lesions and the extent of pulmonary involvement; the quantity of sputum is frequently increased, however, for several days after operation. Patients usually state that coughing is more productive and the sputum raised much more easily than before nerve extraction, which is explained by the relaxed diaphragm permitting the abdominal muscles to empty secretions more forcibly and completely from the lower portion of the lung in coughing.

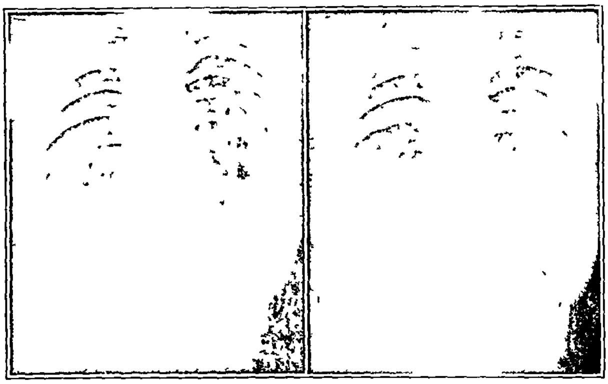

Fig. 1 (case 1).—Appearance before and three months after operation

Phrenicotomy is a valuable measure in many cases of pulmonary tuberculosis; the disease should preferably be chiefly unilateral, with the maximum lesions predominating in the lower portion of the lung. The procedure, however, throws slight, if any additional work on the opposite lung ordinarily, and does not therefore exact the comparative freedom of contralateral active lesions that is required for the performance of extrapleural thoracoplasty or artificial pneumothorax; it is advocated in pulmonary tuberculosis under the following conditions:

1. For early cases that are not making satisfactory progress under modern sanatorium treatment, and whose disease will probably not become arrested by a continuation of such a regimen, the extensive use of radical phrenicotomy was suggested by John Alexander in 1924. He logically reasons from the decidedly favorable results obtained in advanced phthisis that the improvement following phrenicotomy will often weigh the balance in favor of health with progression to clinical cure in many unfavorable early cases.

2. For acute, febrile, predominantly caseous types, even with considerable activity in the other lung, which contraindicates thoracoplasty, and artificial pneumothorax is impossible on account of adhesions.

3. For chronic types of the disease, (*a*) when adhesions prevent pneumothorax and the patient's condition does not warrant thoracoplasty, and (*b*) when the lesions are chiefly unilateral, with maximum involvement basal, which commonly progress to cavitation.

4. For advanced cases when no contraindication exists to artificial pneumothorax or thoracoplasty, phrenicotomy is preferred by Goetze, which obviates the dangers incident to the two former procedures. He reports 50 per cent of cases improved, with many clinical cures from phrenicotomy alone.

5. As a supplementary measure to artificial pneumothorax. The advantages of phrenicotomy to this therapy are: Pleural effusions are smaller and fewer; the interval between refills is lengthened; the pulmonary compression and rest are more uniform, owing to loss of the pumping action of the diaphragm in respiration, and the danger of reactivation of the disease after completion of pneumothorax therapy, as well as in those who prematurely abandon pneumothorax, is materially lessened. Phrenicotomy is also advocated to relieve the distressing irritative cough not infrequently present in pneumothorax due to the pull of adhesions about the diaphragm, and for persistent hemoptysis, which pneumothorax fails to stop because of basal adhesions.

Opinion is divided as to whether phrenicotomy should precede artificial pneumothorax or be performed shortly after the latter therapy is begun. I have not observed any added advantages between these two methods, but believe that the operation should be performed early in this treatment. Some German clinics recommend phrenicotomy in conjunction with every complete, and even satisfactory, pneumothorax.

6. As a supplementary procedure to extrapleural thoracoplasty. Its advantages preliminary to surgical collapse are: (1) easier coughing and expectoration, which reduces to some extent the risk of postoperative aspiration; (2) gradual adjustment of the thoracic viscera for the consequences of thoracoplasty; (3) sufficient improvement in some advanced subjects to make them suitable subjects for thoracoplasty later; and (4) to increase the compression of an extensively diseased lower lobe, especially the right, which thoracoplasty alone often fails to collapse adequately because of the liver enlargement usually present in advanced phthisis of any duration.

Sauerbruch performs phrenicotomy to determine the status of suspicious lesions in the better lung, and thoracoplasty after three weeks if no clinical evidence of activity is manifested by that time. Sauerbruch, Brunner[5] and others advocate phrenicotomy with every thoracoplasty.

Our experience with radical phrenicotomy in pulmonary tuberculosis is limited to sixty-two cases during the last thirteen months; all were chronic and presented advanced lesions. It was performed supplementary to sixteen thoracoplasties and eleven artificial pneumothoraces, and as an independent procedure in thirty-five patients with 50 per cent improved and 10 per cent markedly improved.

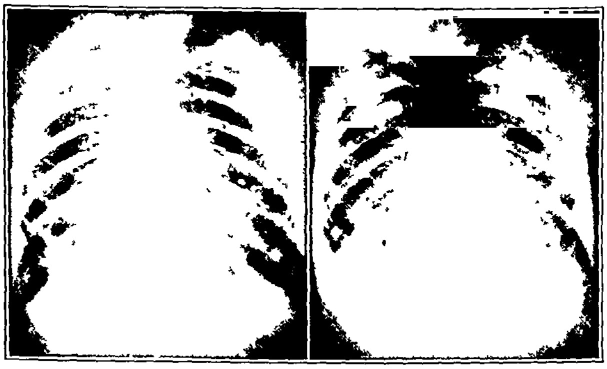

Fig. 2 (case 2).—Appearance before and ten weeks after operation.

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[5] Brunner, A.: Die chirurgische Behandlung der Lungentuberculose, 1924.

I quite agree with those thoracic surgeons who warn against the independent use of phrenicotomy as a curative measure in advanced pulmonary tuberculosis. Our decidedly favorable although limited observations lead me to agree with Alexander's suggestion that radical phrenicotomy will cure some early patients with chiefly unilateral lesions, who fail to improve under sanatorium regimen alone. We have not yet been able to confirm this opinion clinically because early cases of pulmonary tuberculosis are rarely admitted to Fitzsimons Hospital.

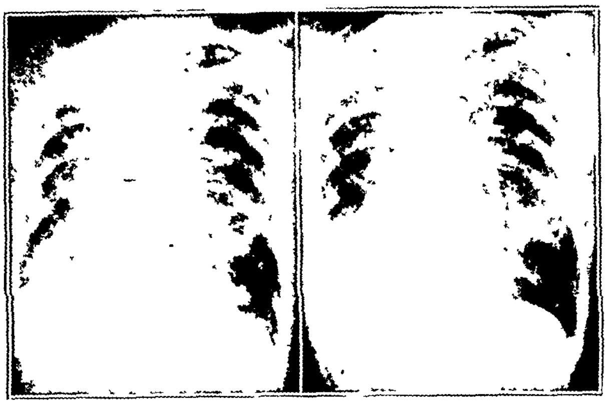

Fig. 3 (case 3).—Appearance before and fourteen weeks after operation

In our experience, radical phrenicotomy is especially advantageous in conjunction with artificial pneumothorax and extrapleural thoracoplasty, and is the primarily indicated surgical procedure in unilateral phthisis with predominantly basal lesions.

The following three cases illustrate the favorable influence of phrenicotomy even in advanced pulmonary tuberculosis:

Case 1.—A man, aged 23, who had had tuberculosis two years, had active lesions in all lobes of both lungs (slight in the left) with confluent caseofibrous lesions and a 3 by 5 cm. cavity in the right lower lobe. There was considerable cough, with one cup of sputum daily. July 1, 1925, a right phrenicotomy was done (15 cm. of nerve extracted). The cavity at the right base has nearly healed; there is slight cough, chiefly in the morning, with little sputum; 6 pounds (2.7 Kg.) gain in weight, and improvement has been marked. The patient left the hospital early in November against advice.

Case 2.—A woman, aged 30, who had had tuberculosis five years, had active lesions in all lobes of both lungs (the left slight and discrete), with considerable fibrosis above the second ribs, and a 2.5 cm. cavity at the third interspace near the right hilum, with confluent caseofibrous lesions of the right lower lobe. There were pleural adhesions at both bases. There was a moderate cough with daily sputum not exceeding 30 cc.; also tuberculosis of the left wrist. Pneumothorax was unsuccessful. June 18, 1925, a 15 cm. right phrenic extraction was done (transverse incision). Marked improvement resulted. Sputum is scant, and there is often no cough or expectoration for several days at a time. The patient has gained 7 pounds (3.2 Kg.) and her appetite is excellent. Roentgen-ray examination shows definite improvement at the right base; thoracoplasty will be performed if it does not continue.

Case 3.—A man, aged 49, who had had tuberculosis sixteen years, had active lesions of all lobes of both lungs (the left nodose, with considerable fibrosis), a cavity in the right apex with recent extension, and multiple small cavities at the right base. There was considerable cough and expectoration with high temperature and loss of weight recently due to extension into the right lower lobe. The daily sputum was one cup before a flare-up. Aug. 29, 1925, right phrenicotomy was done (16 cm. of phrenic nerve extraction) before a contemplated thoracoplasty, which has been our routine since last summer. The improvement in this case has been truly remarkable; the patient refused thoracoplasty. Roentgen-ray examination fourteen weeks after the phrenicotomy showed the cavity in the right apex 50 per cent smaller, increased fibrosis throughout the right lung, and the lesions of the lower lobe fibrous, with no perifocal reaction. The cough is now slight and the sputum barely covers the bottom of the cup. The appetite is excellent. The patient has gained 20 pounds (9 Kg.). He gained 17 pounds (8 Kg.) the first three weeks, and says that he feels stronger and better than he has for ten years.

A METHOD OF PALPATING THE LOBES OF THE THYROID

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BOSTON

The method of palpating the thyroid lobes presented here was developed by me and is based on the following facts:

The thyroid gland is fixed only at one point, its attachment to the trachea at its isthmus. Its lateral lobes are freely movable, so much so that when lifted from their beds by the finger inserted behind them,[1] they may be almost completely inverted. In this position, as I have many times demonstrated, the only fixed attachment of the gland is at the isthmus, the two lateral lobes hanging free as thick wings of thyroid tissue.

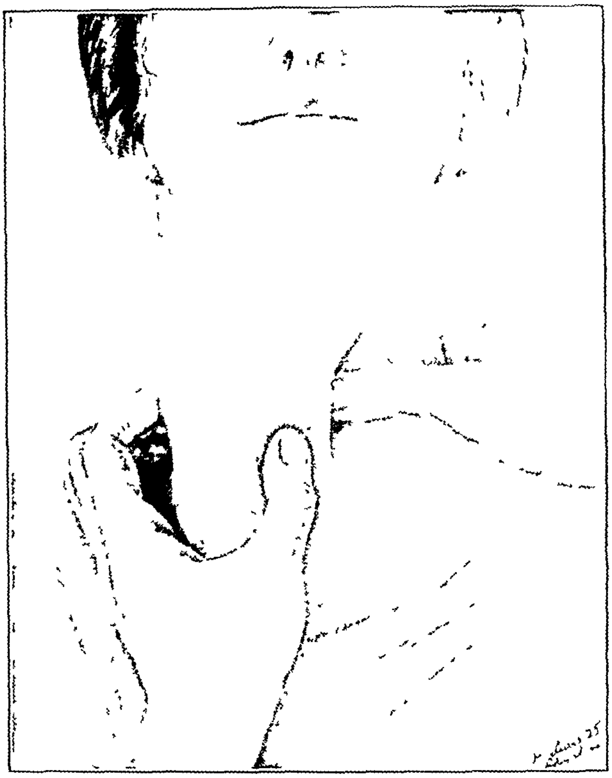

Fig. 1.—Method of dislocating the thyroid cartilage and of grasping the thyroid with the fingers behind and the thumb in front.

The usual anterior palpation of the thyroid gives information only as to its anterior surface, and when the lateral lobes are small, one may not be able to palpate them at all, as they sink back into their pockets beside the trachea and esophagus. The usual methods of palpation give little information as to variation in the consistency of the lobe, as to the posterior surface of the lobe, as to the portion containing small adenomas, and, particularly in moderate sized and deep lying lobes, as to the thickness and therefore the size of the lobe in relation to normal.

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[1] Lahey, F. H.: Technic of Thyroidectomy, Surg., Gynec. & Obst. 36: 825 (June) 1923.

This method consists first in elevating the patient's chin, as shown in Figure 1, thus throwing the larynx and trachea forward. With this forward dislocation of the trachea comes the attached isthmus of the thyroid, resulting also in an increased prominence of the lateral lobes. The effectiveness of this maneuver in throwing the thyroid forward is readily demonstrable during an operation on the thyroid with the neck thrown forward, by means of the so-called goiter bars on operating tables designed especially for goiter operations.[2] The lack of this forward projection of the gland can most readily be appreciated if one attempts to operate on a thyroid gland with the chin unextended and the neck not thrown forward.

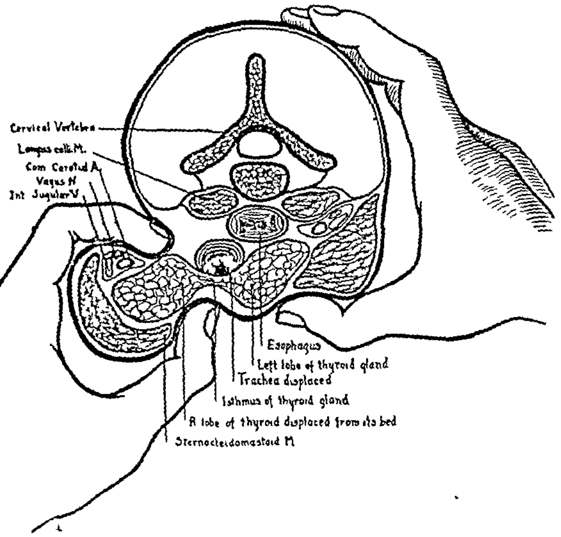

Fig. 2.—Diagrammatic cross section, showing dislocation of the trachea and the right thyroid lobe, the fingers behind the dislocated lobe and the thumb in front, with the lobe grasped between the two. Most lobes may be palpated as completely as demonstrated here.

With the neck in this forward position, the chin is rotated slightly toward the side on which the lobe of the thyroid is to be palpated, relaxing thus the sternomastoid on that side and permitting the examining fingers to press deeply in behind it, as will be described later.

As is well demonstrated by the illustrations and diagrammatic cross-section drawing, the original and valuable portion of the method consists in placing the ball of the thumb against the lower lateral portion of the thyroid cartilage and the upper ring or two of the trachea. The trachea is then dislocated laterally, as far as possible without causing choking. By this maneuver the lobe of the thyroid on the side opposite the pressing thumb is moved outward, together with the dislocated larynx and trachea, and is made prominent on that side of the neck. The fingers of the hand opposite that of the one whose thumb is making counterpressure now press deeply inward behind the sternomastoid and behind the thyroid lobe, and the thumb of that hand is brought over the anterior surface of the gland anterior to the sternomastoid. The dislocated lobe may then be palpated between the two. If any difficulty is experienced in distinguishing that the structure grasped between the fingers and the thumb actually is thyroid, the patient may be requested to swallow, when the lobe will be felt to fall and rise between the thumb and fingers of the examining hand, giving information not only as to its thickness and consistency but also as to its upper and lower limits. The fingers then being oriented as to the location of the lobe, greater dislocation of the thyroid cartilage and trachea by increased counterpressure may be made and, if necessary, a deeper grasp taken with the fingers and thumb on the dislocated lobe.

The advantages of this method of palpating the thyroid lobe are most marked when the thyroid enlargement is slight or doubtful, as particularly occurs in cases of doubtful exophthalmic goiter. It is of value also when one wishes to determine whether or not local enlargements of the thyroid are adenomatous or malignant in character. In such cases, with anterior palpation of the gland, increased pressure anteriorly causes the gland to slip backward away from the examining fingers, and, with the lobe grasped between the thumb and fingers, the outline and consistency of the local tumor mass may be readily palpated. In the larger goiters it is of value to determine the consistency of the tumors, their numbers and location, and the thickness of the lobes.

The method requires some little practice but is not difficult to acquire. It has been readily taught to all incoming members of the clinic and to many visitors.

In making lateral pressure with the thumb, care should be taken to see that the pressing thumb is placed largely against the thyroid cartilage, for if pressure is made largely on the trachea, as one may demonstrate on himself, choking results.

In feeling for the back of the dislocated gland, the fingers must be pressed in deeply well behind the sternomastoid and behind the great vessels of the neck.

A little practice with glands that are readily palpable soon makes it possible to palpate on swallowing even those which are smaller than normal, and also the thyroid remnants left behind following an inadequate thyroidectomy, such remnants often being the cause of persisting hyperthyroidism.

Orientation of the examining fingers as to the location of the thyroid gland by having the patient swallow and by grasping the moving thyroid is often the sine qua non of the method.

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[2] An illustration of goiter position is presented by Sise, L. F.: The Technic of Anesthesia for Thyroid Operations, Surg. Clin. N. Am. 4: 1379 (Dec.) 1924.

Cost of Adequate Health Service.—Adequate health service for an individual will cost between $10 and $75 a year, according to location, work and intelligence of the person and of the physician responsible. There is over and above this the burden which properly falls on the individual for his own health, an obligation moral or legal, voluntary or compulsory, to provide preventive and treatment facilities which can only be operated with advantage as public services. Some of these public services are essential to the life and happiness of every one and should be supplied out of the tax levy, free; others, while commonly bought and paid for by the well-to-do individually, must for the indigent, and often for the wage earner, be provided out of a common purse or for a nominal or minimum wholesale cost charge.—Emerson, Haven: *Hospital Social Service* **13**:108 (Feb.) 1926.

DUODENAL ULCER, WITH DIVERTICULUM

REPORT OF A CASE IN A BOY, AGED THIRTEEN *

LLOYD B. DICKEY, M.D.
SAN FRANCISCO

The finding of duodenal diverticula at necropsy is not uncommon. The clinical diagnosis, or the finding at operation of diverticula of the duodenum that have given previous clinical symptoms is rare. Their association with ulcer of the duodenum is still more rare.

Andrews,[1] in 1921, reviewed the literature on duodenal diverticula. Although he did not discuss any association with ulcer, he noted the age factor, and says that "duodenal diverticula were acquired rather than congenital deformities, as they belong mostly to the latter part of life."

The association of duodenal diverticula with ulcers is mentioned by Perry and Shaw,[2] Moynihan,[3] Wilkie,[4] Linsmayer,[5] Cole and Roberts,[6] Murchison,[7] Moore,[8] Penhallow[9] and Divis.[10] In these instances the diverticula were probably outpocketings due to perforation of an ulcer, cicatrization, or to some other condition dependent on inflammatory changes.

Diverticula of the duodenum, associated with ulcer on the opposite wall, or far removed from the site of the ulcer, are reported by Ritchie and McWhorter,[11] Jones[12] and Nagel.[13] Nagel reported three cases, two with duodenal ulcer, one with gastric ulcer.

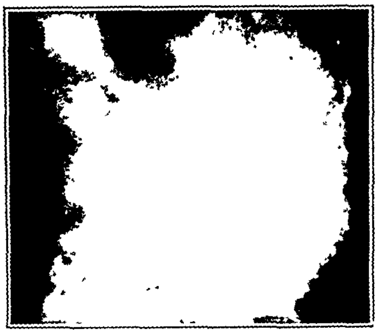

Fig. 1.—Appearance of stomach on immediate examination of barium meal in August, 1924.

Spriggs[14] collected records of eleven cases of diverticula occurring in the first portion of the duodenum. The cases of Murchison, Penhallow, Jones, and one of Cole and Roberts' cases also belong to this group, making a total of fifteen that were found reported in the literature.

The youngest patient in Linsmayer's series was 36 years old, in Nagel's 33. Jones' patient was 31, Ritchie and McWhorter's 32, and Penhallow's 28.

Chronic peptic ulcer in children is, in itself, quite rarely reported. Proctor[15] found only nineteen cases in the literature which were assuredly chronic peptic ulcer in patients of 14 years of age or younger, with two additional cases which were questionable. He adds three cases in his report, in two of which the diagnoses were confirmed at operation. Forty-two patients among 2,000 with chronic peptic ulcer seen at the Mayo Clinic had the beginning of their symptoms in childhood, and this fact led to the logical conclusion that chronic peptic ulcer in children is less of a rarity than it was formerly thought to be. Acute ulcers of both the stomach and duodenum are more frequently reported, but it is quite certain that chronic peptic ulcer in children is frequently unrecognized.

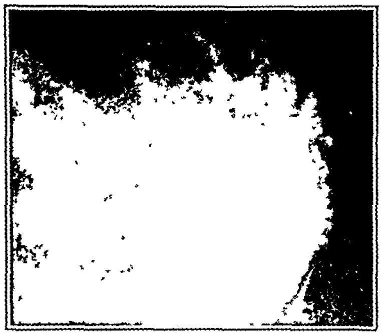

Fig. 2.—Condition on immediate examination of barium meal in November, 1924.

The case reported here is of interest because it presents the combination of a duodenal diverticulum, found at operation, and an ulcer, both of which were in the first portion of the duodenum, and in a comparatively young patient.

REPORT OF CASE

History.—G. S., an American schoolboy, aged 13, came into the outpatient children's clinic in August, 1924, complaining of intermittent epigastric pain, of one year's duration. The pain came on about an hour after meals, and was relieved by food or soda. He was sometimes awakened by it at night. For several months he was without any pain. Nausea or vomiting never occurred during the attacks of epigastric pain, although the pain was severe enough at times to double him up. No blood was ever noticed in the stools. The patient had an attack of jaundice in January, 1924, and was ill two weeks with fever and vomiting, not accompanied by pain. For two years he had suffered from frontal headaches, which lasted for a few hours at a time, and were associated with nausea and vomiting. The family history was negative except for the history of migrainoid headaches in the mother and two aunts.

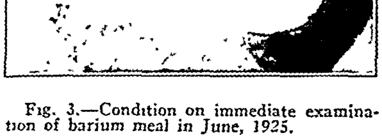

Fig. 3.—Condition on immediate examination of barium meal in June, 1925.

Examination.—The tonsils were enlarged and cryptic, and there was moderate cervical adenopathy. There was tenderness on pressure in the right lower and right upper quadrants. The physical examination in other respects was negative. The urine was normal. The Wassermann reaction was negative. The hemoglobin was 68 per cent. Gastric analysis showed a total acidity of 25.2, free hydrochloric acid 8.4, and the presence of occult blood. The first barium meal, given in August, 1924, showed on immediate examination a crater thought to be on the gastric side, about 1 cm. from the pylorus, with a corresponding niche (fig. 1). A similar examination three months later, during which time the patient was on a Sippy diet, showed no marked change (fig. 2). Ten months after the first examination, with the patient entirely symptomless on his diet, a new series of roentgenograms was taken, and a comparison with the preceding series led to the conclusion that the mass of scar tissue about the pyloric end of the stomach had greatly increased (fig. 3).

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* From the Division of Pediatrics, Stanford University Medical School.

[1] Andrews, E. W.: Duodenal Diverticula, J. A. M. A. **77**: 1309-1311 (Oct. 22) 1921.

[2] Perry, E. C., and Shaw, L. E.: On Diseases of the Duodenum, Guy's Hosp. Rep. **50**: 171-308, 1893.

[3] Moynihan, B. G. A.: Duodenal Ulcer, 1912, pp. 268-271.

[4] Wilkie, D. P. D.: Duodenal Diverticula and Duplicature of the Duodenal Wall, Edinburgh M. J. **11**: 219-229, 1913.

[5] Linsmayer, Heinrich: Ueber Duodenaldivertikel, Verhandl. deutsch. path. Gesellsch. **17**: 445-455, 1914

[6] Cole, L. G., and Roberts, Dudley: Diverticula of the Duodenum, Surg., Gynec. & Obst. **31**: 376-382 (Oct.) 1920.

[7] Murchison, D. R.: Duodenal Diverticulum with Pyloric Ulcer, J. A. M. A. **75**: 1329-1330 (Nov. 13) 1920

[8] Moore, E. C.: Duodenal Diverticula, Arch. Surg. **1**: 513-523 (Nov.) 1920.

[9] Penhallow, D. P.: A Case of Duodenal Diverticulum, J. A. M. A. **80**: 1372-1374 (May 12) 1923.

[10] Divis, J.: Duodenal P[illegible] [illegible] esk. **64**: 61 (Jan. 10) 1925; abstr. J. A. M[illegible] 5.

[11] Ritchie, H. [illegible] Diverticula, Surg., Gynec. & [illegible]

[12] Jones, W. [illegible] with Ulcer on Opposite Wall, J. A. M. A. **78**: [illegible]

[13] Nagel, G. [illegible] in the Duodenum and Their Significance, Arch. Surg. **11**: 529-549 (Oct.) 1925.

[14] Spriggs, E. I.: Duodenal Diverticula, Brit. J. Surg. **8**: 18-26 (July) 1920.

[15] Proctor, O. S.: Chronic Peptic Ulcer in Children, Surg., Gynec. & Obst. **41**: 63-69 (July) 1925.

In September, 1925, the patient had a return of his symptoms. Because of this, and because of the roentgen-ray evidence of increased scarring, it was decided to operate. Adenotonsillectomy had been done, Oct. 1, 1924.

Operation.—The preoperative diagnosis was gastric ulcer. The operation was done by Dr. P. K. Gilman, Sept. 29, 1925. There were some adhesions about the pyloric end of the stomach and duodenum. There were some scar tissue and adhesions on the lesser curvature at the juncture of the pylorus with the duodenum, with a slight dilatation above this point on the lesser curvature. There was a diverticulum of the duodenum on the side toward the greater curvature of the stomach. This was firmly adherent to the greater curvature. On the wall of the duodenum opposite to the diverticulum there were scar tissue and adhesions at the site of an old ulcer. A pylorectomy and posterior gastro-enterostomy were done, the jejunum being anastomosed to the posterior wall of the stomach. Convalescence was entirely uneventful, and the patient was entirely free from symptoms three months later.

Pathologic Findings.—Microscopic examination of the ulcer showed the wall edematous, with a loss of substance at one point. There was no noticeable increase in fibrous tissue in sections examined. There were a small amount of round cell infiltration, and a few eosinophils.

BILHARZIASIS IN THE UNITED STATES AND CANADA

REPORT OF A CASE*

MAX CUTLER, M.D.

NEW YORK

If one judges from case reports in the literature, the incidence of bilharzial infections in this country is comparatively rare. In every case reported, infection has taken place in some foreign country where the disease is endemic, and has been imported. According to Leiper,[1] schistosomiasis is very prevalent in Egypt, Mesopotamia and South Africa, and occurs sporadically in West Africa, Madagascar, western Australia and Persia. Apparently the first authentic case in this country was reported in 1897 by Brooks of New York. In 1910, Lane[2] reported a case of bilharzial appendicitis in a patient, aged 22, who had gone to South Africa at the age of 15. He reviews the literature and cites all the cases reported up to the time of his own case. From Lane's report of the literature, it appears that nine cases (including Lane's case) of undoubted schistosomiasis had been reported in the United States up until 1910.

Lloyd,[3] in 1913, reported a case from Seattle; in this patient the disease had lasted for eleven years, ever since a stay in South Africa. Rosenberger[4] reported a case from Philadelphia in 1915. The patient, born in Cairo, had traveled in France, Germany and Syria, and had been away from Egypt for thirteen years. He had been a resident in the United States for three years. Short, in 1919, reported a case from the Post-Graduate Hospital, New York, occurring in a man, aged 31. The patient had been born in Russia and had lived in Palestine and Cairo; he developed hematuria, and an examination of the urine revealed large numbers of typical ova with terminal spines. Blood examinations, at first normal, later showed an eosinophilia of 7 per cent. Reed[5] reported five cases of schistosomiasis occurring in California during the period from 1916 to 1918; four were of the mansonian type and one bilharzian. Petillo[6] and Day[7] each reported single cases in 1921. Bailey and Bullard[8] reported a case in 1923, occurring in a married woman, aged 25, who had lived in South Africa until the age of 15. Microscopic examination of the removed appendix showed ova in the nodules; the blood showed an eosinophilia; the stools were negative for ova, and all symptoms disappeared after sodium antimony tartrate therapy. Pedersen,[9] in 1923, reported the case of a boy, aged 17, who was born in Africa and came to the United States when 3 years old. He later returned to Africa, where he remained until 10 years of age; since that time he had had intermittent hematuria. Cystoscopic examination revealed small elevated vesicles irregularly scattered over the bladder mucosa; the urine contained ova of *Schistosoma hematobium*. The condition cleared up following intravenous administration of antimony and potassium tartrate. Plaut,[10] in 1924, reported a case of bilharzia in the appendix. He found both terminal and lateral spines and believes

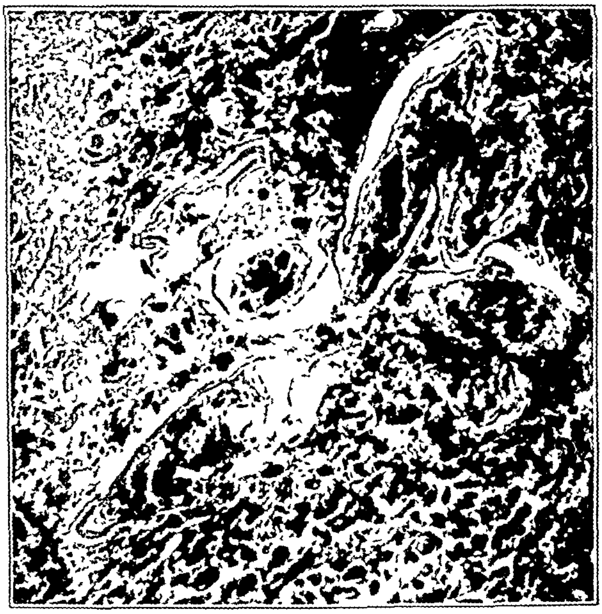

Fig. 1.—Parasitic ova of Schistosoma in bladder mucosa, with surrounding inflammatory reaction.

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* From the Department of Pathology, Memorial Hospital.

[1] Leiper, R. T.: Bilharziasis, in Nelsons' Loose Leaf Living Medicine **5:** 471.

[2] Lane, E. G.: Bilharziasis: Report of a Case with Appendicitis, Boston M. & S. J. **163:** 936, 1910.

[3] Lloyd, B. J.: A Case of Bilharzia Hematobia, Northwest Med. **5:** 311, 1913.

[4] Rosenberger, R. C.: Filariasis Associated with Schistosomiasis, New York M. J. **102:** 883, 1915.

[5] Reed, A. C.: Schistosomiasis in California, California State J. Med. **16:** 293 (June) 1918.

[6] Petillo, Diomede: Treatment of Bilharziasis of the Bladder: Report of a Case with Permanent Cure, Surg., Gynec. & Obst. **32:** 287 (April) 1921.

[7] Day, R. V.: Bilharziasis, Surg., Gynec. & Obst. **33:** 457 (Oct.) 1921; **33:** 557 (Nov.) 1921.

[8] Bailey, C. H., and Bullard, E. A.: Bilharzial Appendicitis, Surg., Gynec. & Obst. **36:** 704 (May) 1923.

[9] Pedersen, James: Report of a Case of Schistosomum Hematobium, J. Urology **10:** 175 (Aug.) 1923.

[10] Plaut, Alfred: Bilharzia in the Appendix, Proc. New York Path. Soc. **24,** Nos. 6-8 (Oct.-Dec.) 1924.

that it is impossible to differentiate two kinds of bilharzia according to the position of the spine in the ova.

Campbell[11] states that the first two cases of bilharziasis reported in Canada were in soldiers returned from Africa. The cases were reported by Ross[12] of Quebec, in 1906, and both showed characteristic hematuria and typical ova of *S. hematobium* in the urine. R. Eden Walker, in 1905, reported two cases occurring in Canada in soldiers returned from South Africa. Campbell[11] of Montreal reported a case in 1908. A. R. Robertson[13] of the Granville Canadian Hospital, Ramsgate, also reported a case in a returned soldier.

REPORT OF CASE

J. J., a machinist, aged 33, born in Italy, migrated to Turkey at the age of 22, where he lived for fourteen months, after which he came to New York, where he has lived continuously for the last ten years. His general health has always been excellent; he has never had any serious illnesses, except for pneumonia at the age of 29, from which he recovered without complications. For the last twelve years, he has complained of "indigestion." This symptom has been persistent but never severe, and has consisted of a burning sensation in the epigastrium about three hours after eating. For the last three years, he has had swelling of the ankles but no other cardiorenal symptoms. In 1914, one year after his arrival in America, he first noticed a terminal hematuria. This symptom, varying in intensity, has persisted until the present time. The bleeding has never been profuse and has subsided and recurred at varying intervals; he has never passed any blood clots. Associated with the hematuria, he has frequency of urination by day (every two to three hours) and nocturia (two to three times each night). There has been no dysuria, although he has experienced a dull pain in the suprapubic region which has been intermittent and never severe. His general health has been excellent; he has lost no weight; his appetite has been good, and he has continued at his work without interruption.

The patient was a large, well developed man weighing 200 pounds (91 kg.). Examination showed that the head was normal; the heart and lungs were normal; the abdomen was symmetrical; there was moderate localized tenderness in the suprapubic region; the spleen, liver and kidneys were not palpable, and there was no tenderness in the costovertebral angles. The extremities were normal.

The patient was first seen in the outpatient department of the Memorial Hospital, Dec. 14, 1920. Cystoscopic examination revealed a moderate grade of inflammation of the bladder mucosa in the region of the trigon and some thickening of the bladder wall; the rest of the bladder appeared normal. There was no evidence of tumor or tuberculosis. Examination of the urine showed negative results; a special search for parasites was not made at the time. A second cystoscopic examination, March 15, 1921, revealed the presence of small papillomas, 3 mm. in diameter, in the right upper bladder vault, with several small crater-like ulcers. A specimen of tissue removed from the bladder mucosa proved, on histologic examination, to be a small tag of mucosa with eroded epithelium, the submucosa infiltrated with many plasma cells and containing one foreign body tubercle; there were no signs of tumor.

The patient disappeared from observation for some time, during which period he was being treated in another hospital by fulguration. He returned to the clinic, July 22, 1924. His general health was good, but the hematuria was still present. Cystoscopic examination again revealed small crater-like ulcers; tuberculosis was suspected, but an examination of the urine for tubercle bacilli gave negative results. No ova or parasites were found. An examination of the tissue from the bladder lesion showed a chronic granulomatous inflammation, but no specific sign of tumor or tuberculosis. The patient was treated with injections of 2 per cent. mercurochrome-220 soluble into the bladder, and the hematuria subsided somewhat. August 14, 1925, the patient returned to the clinic, complaining of a moderate frequency of urination and slight terminal dysuria and hematuria. A small papilloma was seen on the left posterior bladder wall, and a specimen was taken for histologic examination. The sections were examined by Dr. Ewing.

Sections of mucosa showed a chronic inflammation of the granulomatous type, the main tissue being composed of lymphocytes, plasma cells and fibrils. There were numerous foci resembling miliary tubercles, composed mostly of giant cells in which traces of ova generally appeared; at other points, especially near the surface of the lesion, typical ova were seen without giant cell reaction. There was no necrosis; many ova lay just beneath the epithelial layer, which showed a slight degree of hyperplasia and marked hydropic degeneration.

The clue obtained from the histologic examination of the last specimen of tissue was followed, and the urine was again examined for ova and parasites. The first centrifugalized specimen was normal; a second preparation, however, contained two ova bearing terminal spines, typical of *Schistosoma hematobium*. Further examinations demonstrated more ova in small numbers. In no single centrifugalized specimen were more than three ova found Examination of the stool gave negative results. The blood examination showed 80 per cent. hemoglobin, 4,420,000 red blood cells, 5,200 white blood cells, 53 per cent. polymorphonuclear leukocytes, 42 per cent. lymphocytes, 4 per cent. eosinophils, and 1 per cent. basophils.

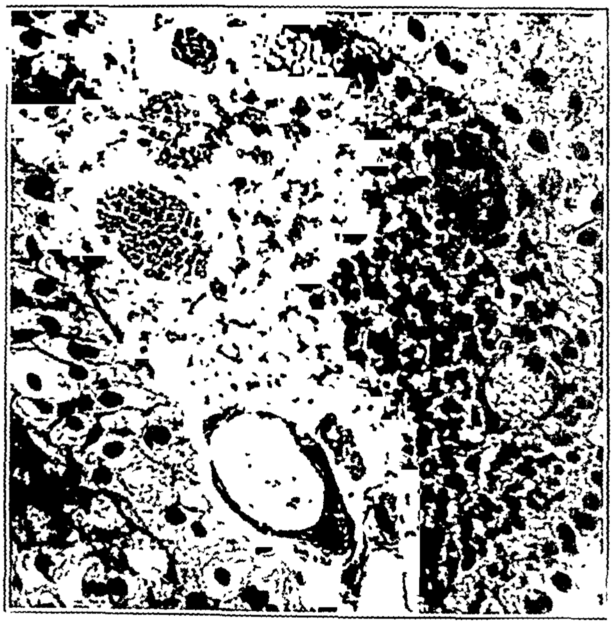

Fig. 2.—Ova of Schistosoma hematobium in the bladder mucosa. The tissue shows chronic inflammation of the granulomatous type, lymphocytes, plasma cells, epithelial hyperplasia and hydropic degeneration

COMMENT

This case presents several interesting and more or less unusual features. The presence of ova of *Schistosoma hematobium* in the urine ten years after the patient went away from the source of infection is unusual. Castellani and Chalmers state that most patients cease to pass ova three years after leaving the endemic area. It is to be noted that the presence of this infection for at least ten years has not impaired the general health of the patient. The condition has apparently remained well localized to the bladder, and the urinary symptoms have remained practically stationary. The absence of rectal symptoms, as well as the absence of ova and parasites in the stools, would indicate that the infection has not extended to the rectum. Five specimens of tissue from the bladder mucosa were available for histologic examination. This presented an unusual opportunity to study and follow the pathologic changes in the bladder mucosa caused by the parasite. The second, third and fourth specimens showed only the peculiar granulomatous reaction, but no evidence of ova or parasites. The first specimen, taken in 1920, showed at one point what had been interpreted as a foreign body giant cell. On reexamination, with the added information at hand, this was thought probably to be a distorted ovum. Similar structures were present in the fifth specimen, in which were found numerous well preserved ova bearing terminal spines.

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[11] Campbell, R. P.: Bilharziosis, Montreal M J **38**:178, 1908
[12] Ross, H. R.: Bilharzia Hematobium, Montreal M J **35**:596, 1906
[13] Robertson, A. R.: Bilharziasis, Canadian M A. J **6**:913, 1916

From a diagnostic standpoint, it is noteworthy that the clue to the diagnosis was obtained first by finding the ova in the tissues. The failure to find ova in the urine earlier must be attributed to the fact that this condition was not suspected; consequently no specific and thorough search was made. This case reemphasizes the importance of considering the possibility of schistosomiasis in any obscure case of hematuria, especially if the patient has at any time lived in an area where this infection is known to be prevalent.

STANDARDIZATION OF ULTRAVIOLET RAYS

THE ULTRAVIOLET UNIT

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Heliotherapy has gained more and more advocates among the medical profession in the last few years. There is no denying the fact that ultraviolet radiation intelligently used in favorable cases has shown encouraging results. The amount of radiation administered in a single treatment or the total energy applied in a series of treatments varies widely with different therapists. As far as I know, there has never been a successful attempt made in this country at standardizing or calibrating ultraviolet lamps for clinical purposes.[1] However, Coblentz[2] and his co-workers have undertaken an exact study of the changes of the intensity of mercury lamps with the usage. Recently, Anderson and Robinson[3] published their chemical studies with the "oxalic acid-uranyl sulfate ultraviolet radiometer." On the continent, a unit is used (chiefly in German clinics) which we would call one ultraviolet unit (U. V. U.) and which represents the dose of ultraviolet radiation that produces on the human skin an erythema of medium strength.

The test employed to measure the intensity of the ultraviolet radiation is a photochemical reaction described by Bering and Meyer[4] in 1912. It is based on the fact that a solution of hydriodic acid in water frees iodine under the influence of intensive light; this free iodine will give the starch test (blue coloration). The authors mentioned exposed to ultraviolet rays for a certain length of time 25 cc. of a 5.3 per cent sulphuric acid solution and 25 cc. of a 1 per cent potassium iodide solution in a glass vessel with a quartz window. They added then a few drops of a 1 per cent starch solution as an indicator and titrated the amount of free iodine with a four hundredth normal sodium thiosulphate solution. They called that amount of ultraviolet energy one normal dose (one Finsen) which freed a quantity of iodine equivalent to 10 cc. of four hundredth normal sodium thiosulphate solution. This method was simplified by Keller,[5] who added the starch solution and 1 cc. of four hundredth normal sodium thiosulphate solution before exposing the mixture to the light. The coloration of the whole solution into blue marks the end of the reaction. He also stated that the reaction is running parallel to the sensibility of the skin; this, however, does not hold exactly true. Certain points of his work were criticized by Schall and Alius.[6] I have therefore carefully studied the test as recommended by Keller and will give here the results of the investigations.[7] Two types of the mercury quartz light, of standard type and American make, were used for the experiments.

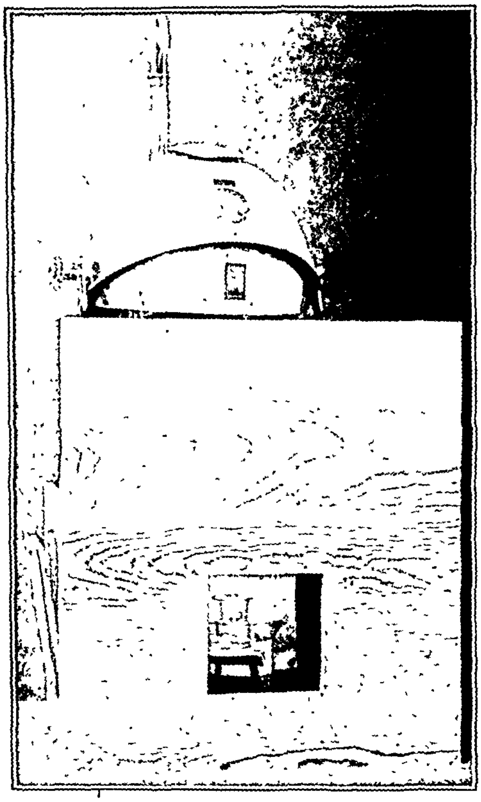

Fig. 1.—The testbox.

Certain precautions have to be taken and the details of the test must be carried out strictly.

The lamp must burn for at least twenty to thirty minutes until its output is constant enough to be tested.

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[1] A very important step in this direction has been taken recently when the Council on Physical Therapy of the American Medical Association was organized.

[2] Coblentz, W. W.; Long, M. B., and Kahler, H.: The Decrease in Ultraviolet and Total Radiation with Usage of Quartz Mercury Vapor Lamps, Scientific Papers of the Bureau of Standards **15**: 1, 1918. Coblentz, W. W.: Some Physical Characteristics of Radiation from Quartz Mercury Lar [illegible] : 395 (Oct.) 1921.

[3] Anderson, W. [illegible])xalic Acid-Uranyl Sulfate Ultraviolet [illegible] : 718, 1925.

[4] Bering, F. R. [illegible] 'Iessung der Wirksamkeit violetter [illegible] Strahlentherapie **1**: 189, 1912.

[5] Keller, P.: Ueber die Wirkung des ultravioletten Lichtes auf die Haut unter besonderer Berucksichtigung der Dosierung, Strahlentherapie **16**: 52, 1923; Dosierung und Dosimetrie medizinischer Lichtquellen, in Handbuch der Strahlentherapie, Berlin **1**: 217, 1925.

[6] Schall, L., and Alius, H. J.: Zur Biologie des 'Ultraviolettlichts, Strahlentherapie **19**: 559, 1925.

[7] The details of the experiments will be published in the American Journal of Roentgenology, March, 1926.

Manufacturers usually give from five to ten minutes' time, and it is true that the number of volts and amperes in the burner circuit has by that time approximately reached its constancy; but a chemical test undertaken before one-half hour will not produce uniform results. Some lamps have a hood which can be closed, leaving only a small opening for so-called local treatments. It is not advisable to close this hood at all because electrical conditions in the burner circuit are changed up to 15 per cent. It seems certain that the accumulation of heat in the closed hood is responsible for this change.

A considerable amount of sulphuric acid should be prepared so that it will last for a great number of tests. This acid does not change, and at the same time a solution of constant composition is guaranteed.

The potassium iodide solution should be freshly prepared for each test; the potassium iodide may be kept in brown bottles in powder form in quantities of 250 mg. each. It has to be dissolved in 25 cc. of distilled water before each test. The standard iodine bottles are very useful for this purpose. The sodium thiosulphate solution must be made up in tenth normal form; therefore 24.83 Gm. of the salt in crystal form is dissolved in 1,000 cc. of distilled water. The four hundredth normal solution has to be prepared for each test by diluting 1 cc. of sodium thiosulphate solution in 39 cc. of distilled water. We have controlled this rather inexact method by using a carefully titrated solution; the difference is negligible for practical work.

The 1 per cent starch solution must also be made fresh for each test. It is advisable to dissolve 1 Gm. of soluble starch in 5 cc. of distilled water at room temperature, and stir it slowly into 95 cc. of boiling distilled water.

As the volume and the surface of the test solution have a very marked influence on the time of the reaction, vessels of 5 cm. inner diameter should be used. We find that this kind of container is on the market as a 100 cc. pyrex glass beaker.

The temperature influences this reaction to a certain extent. For exact measurements it is best to use a cooling device to keep the temperature constant, but for practical purposes, with the temperature of the solution between 20 and 25 C., the error is negligible.

In order to be able to carry out the test conveniently, we had a box built with a window glass in the front wall and an opening on one side (fig. 1). We proceeded then as follows:

1. The lamp burns with opened hood thirty minutes and is adjusted then over the center of the box at a distance of 25 cm. from the burner to the surface of the test solution. It is desirable to have a volt meter and ampere meter in the burner circuit for the control of the watt input,[8] and a rheostat to balance fluctuations (fig. 2), at least for the first measurement, in order to get an idea of the electrical characteristics of the lamp.

2. In a vessel of 100 cc. content and 5 cm. inner diameter, 25 cc. of 1 per cent potassium iodide plus 25 cc. of 5.3 per cent sulphuric acid plus 5 drops of 1 per cent starch solution plus 1 cc. of four hundredth normal sodium thiosulphate solution are placed under the center of the burner at a distance of 25 cm.

3. After one or two minutes, blue clouds begin to form in the solution, which should then be stirred with a glass rod. After a certain time the whole solution will turn blue, and the time required is measured by a stop watch.

Keller has worked out the test in just this form and defines the ultraviolet unit as the amount of ultraviolet radiation producing the foregoing reaction. When applied to the skin, double the distance as used in the test must be taken.

We were also able to confirm the observation of previous investigators that the inverse square law cannot be used in calculating the dose for various distances (Coblentz, Keller, Schall and Alius). The exponent was lower than 2, usually around 1.6 to 1.7, in certain experiments even as low as 1.3. This may be explained by several facts: The inverse square law holds true in a point source of light, while the quartz mercury burner has a considerable surface. There is also much reflected radiation coming from the hood of the lamp; the amount of reflected radiation is dependent on the form of the hood and the position of the burner; it seems best to have a parabolic hood with a burner installed in its focus, because this gives a nearly parallel reflected beam.

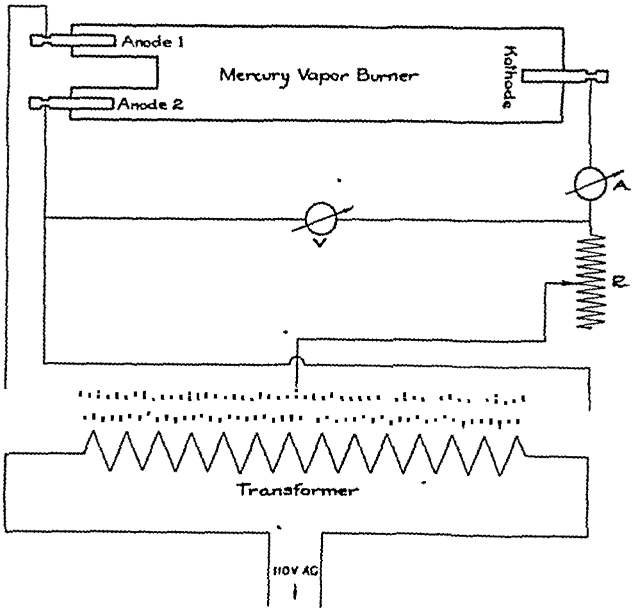

Fig 2.—Schematic diagram of the electrical circuit of a mercury quartz burner connected to 110 volts alternating current; volt meter, ampere meter and rheostat placed as during the measurements.

In all our measurements, we have observed the time for the reaction in various distances; we chose 25, 40 and 50 cm. burner surface distance. Then the skin of several persons was exposed for the time measured, but at double the distance. A mild erythema always appeared after from two to five hours, lasted from twenty-four to seventy-two hours, showed a slight pigmentation, and disappeared usually in from ten days to two weeks. By varying the time, we found that 25 per cent of the ultraviolet unit will cause, after from six to ten hours, a just visible reddening; 150 per cent of the dose produces a deep red erythema, while 200 per cent causes a disagreeable itching and burning sensation, lasting for days, when given as first exposure on unpigmented skin. This depends also on the exposed part of the body; it is well known that the chest and the abdomen are very sensitive. We choose the upper forearm or anterior upper thigh when comparing the doses.

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[8] The multiplication of volts and amperes does not give the exact number of watts if alternating current is used.

It seems to me that the test is simple enough to be done, without much loss of time or special training, by every physician. The reasons for testing ultraviolet lamps regularly, perhaps once a month, are obvious. In the first place, it is well known that the burner shows the signs of "aging"; in other words, the intensity is decreasing with the time the burner is in use.[2] The most important argument, however, is that as long as we have no standardized dose of ultraviolet radiation which can be reproduced by every physician in any part of the country, it is impossible to get reliable statistics on the treated diseases and we shall not be able to compare our results.

I realize, of course that this test is not chemically or physically exact; as a matter of fact there is no such measuring device available at present. It is my impression, however, based now on several months' experience with the recommended method, while treating from twenty to thirty patients daily, that its careful use brings us a definite step forward toward the scientific application of heliotherapy.

CONCLUSIONS

1. As a basis for ultraviolet treatments, the dose called one ultraviolet unit should be used. This unit is defined by a photochemical reaction and represents the medium erythema dose for normal human skin.
2. Ultraviolet lamps should be tested each month.

THYROID OPOTHERAPY IN DYSPITUITARISM *

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Since the clinical scope and practical limitations of organotherapy will be ultimately defined only through the study of case histories as well as experiment protocols, there would seem to be justification for placing on record a case of dyspituitarism which has been under observation for twenty-eight months and in which the correlation between clinical status and the amount of thyroid extract ingested is well illustrated. The patient's imperfect cooperation during the earlier months of treatment has afforded a striking demonstration of the effects of both insufficient and excessive opotherapy.

REPORT OF CASE

History.—W., a man, aged 35, seen, Dec. 11, 1922, gave a history of increasing drowsiness which had begun about three years before, and had become so marked that he would fall asleep during business conferences or while dictating letters. He had to be aroused once while answering questions relative to his medical history. There was obvious difficulty in concentration but no actual memory impairment, once the attention had been focused.

His brothers and sisters were of average build, with no apparent abnormalities in development. His parents and grandparents had manifested no gross anomalies of fat distribution or osseous structure.

The patient's medical history was uneventful, without record of serious illness. His weight had never been less than 220 pounds (95 kg.) since his twenty-fifth birthday. Sexual development had been slow, the libido never pronounced. However, he had two healthy children, aged 7 and 9.

Examination.—The patient was 5 feet 7 inches (170 cm.) in height, weighing 260 pounds (118 kg.). The girdle, mons, and mammary fat distribution, the genu valgum, and the tapering fingers are shown in Figures 1 and 2. The skin was thin, pink, fine in texture, and warm. The pubic, superciliary and cephalic hair was abundant, and very soft and oily. The beard was almost absent. The forearms, legs, and chest were covered with a profuse growth of downy hair.

The visual fields and eyegrounds were normal. The thyroid was not palpable. Further physical examination of the head, neck, chest, abdomen, genitals and reflexes was negative. The pulse was 60; the systolic blood pressure was 110; diastolic, 60; the temperature was 98.2 F.

Total and differential blood counts were within normal limits. The blood Wassermann reaction, urea nitrogen, and sugar curve during a tolerance test were all normal. The urine contained no pathologic elements. Repeated basal metabolism determinations showed a normal rate. The sella turcica shadow was of normal dimensions, the posterior clinoids, especially the right, showing considerable irregularity in contour, as will be seen in Figure 3. Two subsequent sets of sella turcica plates—the most recent made in January, 1925—showed no essential change in shadows. Dr. E. V. Hahn, who reviewed the plates, found no suggestions of intrasellar tumor nor any pathologic condition producing intrasellar expansion, but called attention to a greater than normal opacity in the intrasellar region, especially just above the level of the diaphragma sellae, suggesting, he believed, a possible suprasellar lesion with some mineral deposit; e. g., a slow-growing meningioma.

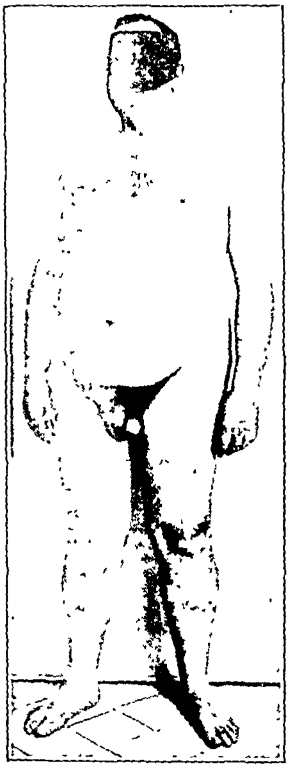

Fig. 1.—Dyspituitarism in a man, aged 35, illustrating the typical mons, girdle, and mammary fat distribution, the tapering extremities, and the genu valgum.

Clinical Course.—On the foregoing data, a clinical diagnosis of dyspituitarism seemed justified, and in the absence of pressure symptoms a course of organotherapy with thyroid extract and whole pituitary substance was inaugurated. The accompanying table shows in some detail the clinical variation in the patient's condition over a period of sixteen months, during which the varying amounts indicated of thyroid extract (Eli Lilly & Company) and whole pituitary substance (Armour and Company) were administered orally, in capsules. The tabulated daily doses were divided into three equal parts, given morning, noon and night. As the eyeground and visual field examinations never showed any variation from the original normal, they are not tabulated. The reflexes were normal at every examination, except on Nov. 12, 1923, when there was a pronounced general hyperreflexia.

From Dec. 15, 1922, to April 15, 1923, while both pituitary substance and thyroid extract were taken daily, the patient underwent a gradual but complete change in personality, *instead of the drowsy, sullen misanthrope prone to involuntary* naps in the midst of his work, becoming again the efficient, affable executive his office associates had formerly known so well. During examination, April 15, he enthusiastically reported that he felt more like himself than he had during the previous two years.

May 15 and June 15, he failed to appear for the scheduled monthly examinations, sending word, June 24, that he had been called out of town on very urgent business and would come as soon as possible.

July 15, he reported for examination—drowsy, sullen, and in much the same condition as when first examined. He admitted that a hasty departure on the trip had been responsible for his forgetting 'the medicines" Being constantly itinerant and with no dependable address schedule, he had neglected to write for new prescriptions Hence, he had taken no thyroid or pituitary capsules since April 22 Drowsiness had begun to return about ten days after their discontinuance, and by the end of June he was as bad as ever He had finally been aroused to stop procrastinating further examination, when an involuntary nap while he was driving his automobile had resulted in an accident

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Skeptical of the rôle of pituitary substance in his previous improvement, I determined to try the effect of thyroid extract alone Accordingly, this was given in daily doses of 2 grains (0 13 gm) the first week (July 15-22, 1923), with instructions to increase the amount half a grain (0 03 gm) a week thereafter until August 15 Following this date, the rate of increase in dosage was a little irregular, until the examination on September 15, after which he was again instructed to resume the half grain a week increase till the October examination Response was just as impressive as before, during the September examination, he asserted that he felt "perfectly normal again"

October 15, he once more failed to report for the usual monthly examination and sent no word Mindful of his previous carelessness, I at once telegraphed his office and learned that he was again away on business but had taken his medicine with him

November 12, one of his business associates sent an urgent summons, explaining that the patient had been very nervous and emotional for a week, and the previous three days had been obsessed with an entirely groundless fear that he was on the verge of business failure Examination the same day confirmed this report of his condition and revealed the added data noted for November 12 in the table There was also a marked general hyperreflexia and a fine tremor, never previously noted The patient greeted me with an outburst of tears, and on being questioned, admitted with some chagrin that he had continued to increase the thyroid dosage by half a gram each week since October 15, even though he had failed to report for examination on that date as ordered Strangely enough, though possessed of full insight into the rationale of his treatment, he had not once suspected the unauthorized increase in his thyroid dosage as being responsible for his emotional state

Opotherapy was of course at once discontinued, and insomnia and restlessness were readily controlled with small doses of bromids Improvement was rapid, and within three weeks (by December 10) he appeared quite normal again

Jan 1, 1924 the daily administration of 1½ gram (0 09 gm) doses of thyroid extract was again started, the amount subse-

Clinical Variations During Sixteen Months of Opotherapy

Opotherapy			Monthly General Examinations						
							Blood Pressure		
Month	Whole Pituitary Substance	Thyroid Extract	Date	Subjective Phenomena	Pulse	Metabolism†	Systolic	Diastolic	Weight, Pounds
December	9*	1 5*	12/11/22	Very drowsy, would fall asleep in the midst of business conferences	60	±	110	60	260
(1922)	9	1 5							
	9	1 5							
	9	1 5							
January	9	1 5	1/15 23	Less drowsy, able to keep from involuntary naps	70	0	110	60	260
(1923)	9	1 5							
	9	1 5							
	9	1 5							
February	9	1 5	2/15/23	Much more active mentally, drowsy only during afternoon	72	0	115	70	257
	9	1 5							
	15	1 5							
	15	1 5							
March	15	2 0	3/15/23	No longer drowsy, mentally active	78	0	120	70	249
	15	2 5							
	15	3 0							
	15	3 5							
April	15	4 0	4/15/23	Felt "more like' himself than in years, no drowsiness, mentally active and energetic	78	±	120	60	245
	15	4 5							
	15	4 5							
	0‡	0‡							
May	0	0	5/15/23	Failed to report					
June	0	0	6/15/23	Failed to report					
July	0	0	7/15/23	Drowsy as on 12/15/22, recently fell asleep driving his automobile	63	±	110	65	252
		0							
		2 0							
		2 5							
August	0	3 0	8/15/23	Much more alert, less drowsiness .	72	0	110	65	245
		3 5							
		4 0							
		4 5							
September	0	4 5	9/15/23	Felt as well as on 4/15/23	72	0	115	60	240
		4 5							
		5 0							
		5 5							
October	0	6 0	10/15/23	Failed to report					
		6 0							
		6 5§							
		7 0							
November	0	7 5	11/12/23	Emotionally very unstable, much flushing and sweating, marked insomnia	120	#	110	50	235
		8 0							
		0							
		0							
December	0	0	12/1 /23	Again felt normal	70	0	115	60	240
January	0	1 5	1/15/24	Slightly drowsy	70	±	115	60	245
(1924)		2 0							
		2 5							
		3 0							
February	0	3 5	2/15/24	Felt perfectly normal	72	0	120	70	242
		4 0							
		4 5							
		5 0							
March	0	5 5	3/15/24	Normal ..	74	0	115	60	245
		6 0							
		6 0							
		6 0							

* Figures in these columns represent the daily dose in grains during each weekly period The daily dose was divided into three equal parts given morning, noon and night The weekly periods frequently represent eight instead of seven day intervals

† The symbol ± indicates a normal metabolic rate, 0, no determination made

‡ April 22, the patient started on a lengthy business trip, neglecting to take thyroid or pituitary capsules with him

# No metabolism determination was possible at this time, because no apparatus was available

§ This and three subsequent increases in dosage were unauthorized and on the patient's initiative quently being increased at the rate of half a grain a week, till by March 15, 1924, the daily dose was 6 grains (0.4 gm.).

Since March 15, 1924, this dose has been taken daily with no periods of interruption. No occasion has arisen for other medication. Impressed by the previous unfortunate experiences, the patient has to date (May 7, 1925) kept under close observation. The pulse rate has varied between 70 and 80; the blood pressure between 120 systolic, 70 diastolic and 110 systolic, 60 diastolic; the weight between 240 and 246 pounds (109 and 111.5 kg.). Reflexes, visual fields and eyegrounds have remained normal. Two basal metabolism determinations (November, 1924, and March, 1925) have shown a normal rate. The patient appears to be—and believes himself to be—perfectly well. As shown in the accompanying table, since July, 1923, there has never been a recurrence of somnolence, the original and only complaint; and he has constantly engaged in strenuous business activities. The weight variation has obviously not been great enough to produce any appreciable change in his appearance.

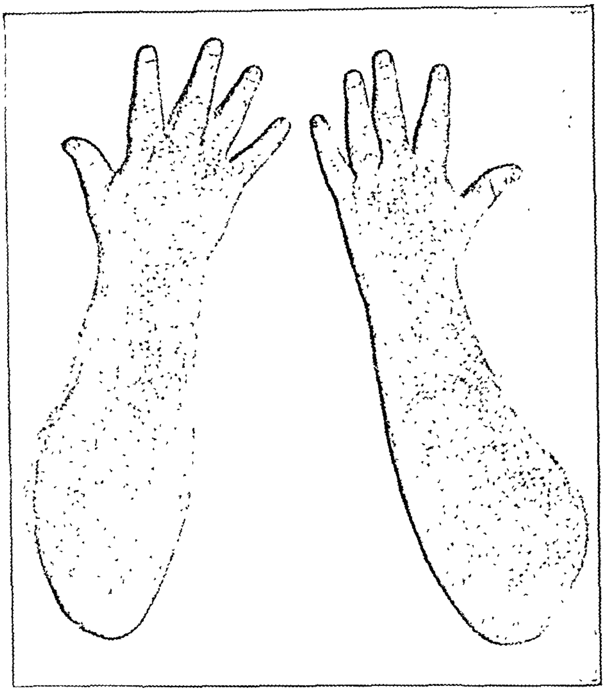
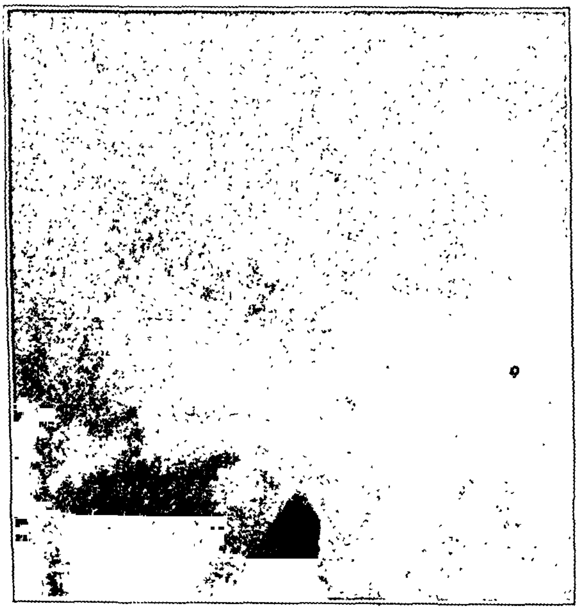


Fig. 2.—Dyspituitarism, showing the typical digital tapering.



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SUMMARY

1. The effect of thyroid extract on the excessive drowsiness of a patient with dyspituitarism has been studied over a period of twenty-eight months. (There was no evidence of coexistent myxedema.)

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3. On an optimal allowance of the extract he has remained symptom-free for thirteen months.

700 Medical Arts Building.

TRANSPLANTATION OF THE GRACILIS MUSCLE FOR INCONTINENCE OF URINE *

CLYDE LEROY DEMING, M.D.
NEW HAVEN, CONN.

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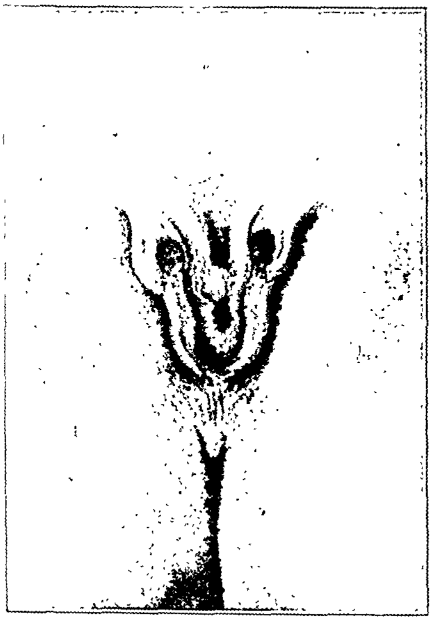

Fig. 1.—Condition at age of 10.

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* From The Department of Surgery, Yale University and New Haven Hospital.

The employment of straight bellied muscles for a complication of movements such as seen in a diaphragm has baffled many surgeons. The rectus muscle is used successfully in colostomies, but its action is a straight contraction, not a sphincteric one There are no such muscles available in the perineum; hence we must look elsewhere.

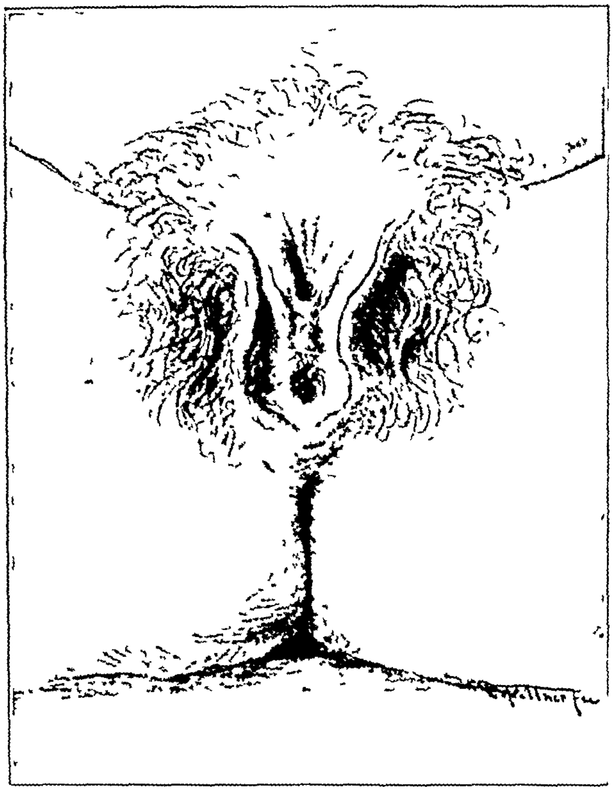
Fig 2 —Condition at age of 20

The literature is very enlightening, regarding many methods, but the success has been little with the transplantation of muscles in cases with complete incontinence even after lengthening, curving and constricting the urethra. Epispadias and hypospadias in the male cases, have been ably treated by Young[1] I wish to refer especially to the epispadias in the female and to women who have had injuries that have completely destroyed the sphincters of the bladder. Steiner[2] reports many corrections for epispadias, but no appreciable change in the incontinence. Stetinger[3] tried transplantation of the pyramidalis muscles without success Goebell[4] reports a case in which such a transplantation was done with continence at night, but the patient could not walk without becoming wet Nové-Josserand and Gotte[5] report thirty cases of epispadias in the female in which only three patients obtained continence of urine There was no attempt to repair the sphincter, and it is assumed that the mechanical damming back is accountable for the results. Suturing of torn sphincters by gynecologists is commonly reported and is not to be confounded with cases in which there is no sphincter musculature. Rubsamen[6] transplanted the pyramidalis or the levator ani muscles with success in three cases. Bryosowsky[7] also used the levator ani muscles with success. Novwy[8] employed the adductor and biceps muscles successfully in one case

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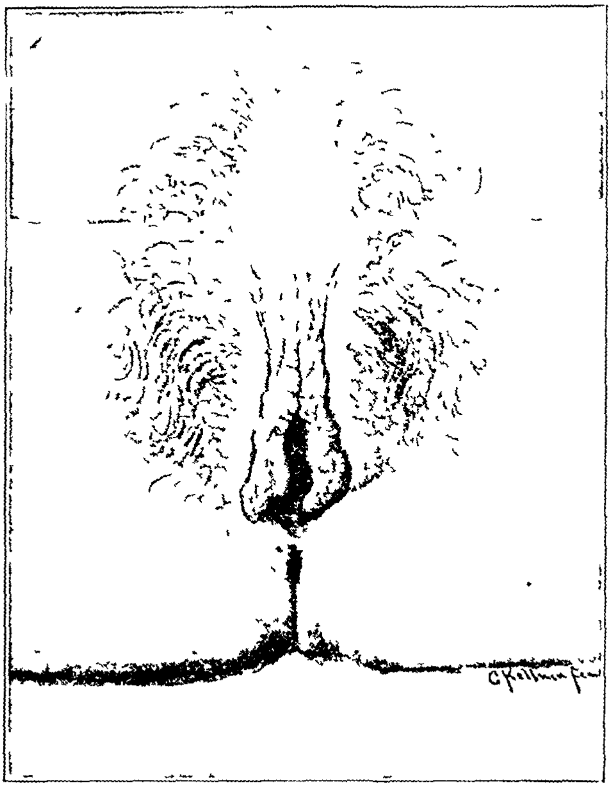
Fig 3 —After plastic operation on external genitalia

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[1] Young H H New Operation for Epispadias, J Urol, Nov 3 1925, An Operation for the Cure of Incontinence Associated with Epispadias, ibid **8**: 361 (Nov) 1922

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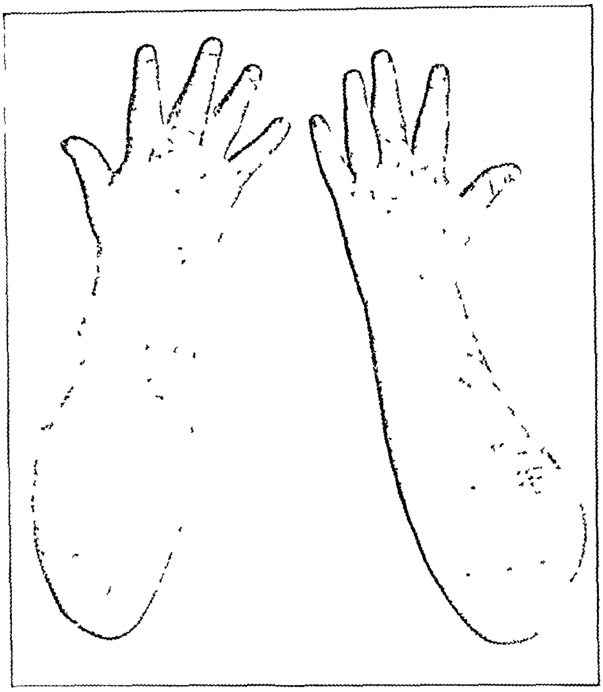

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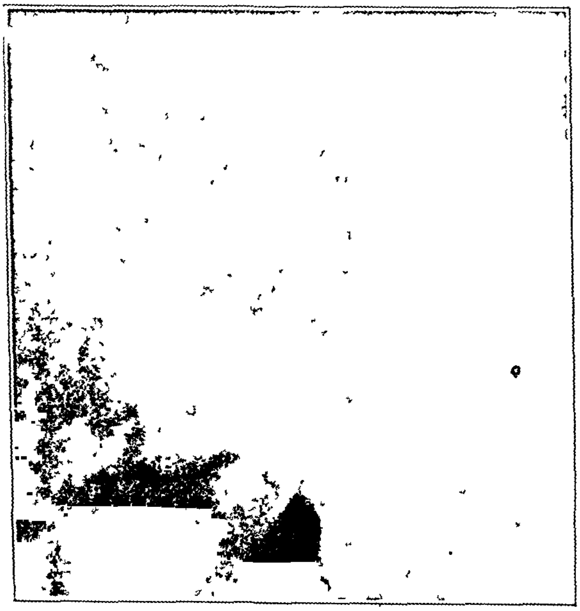

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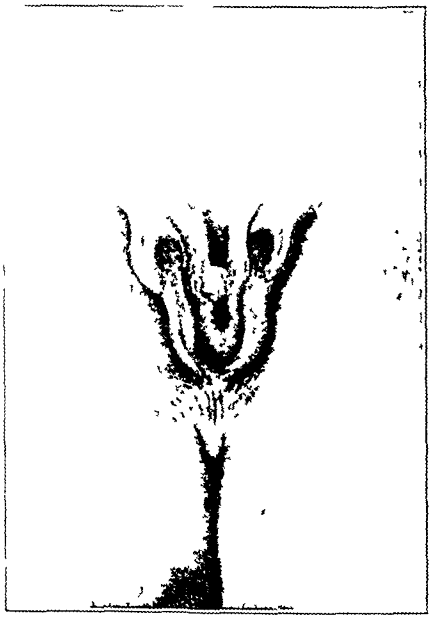

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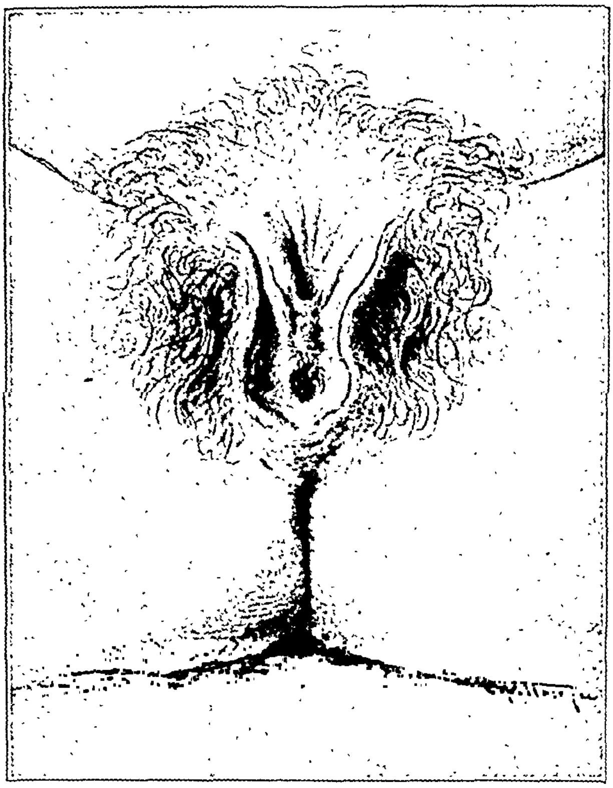

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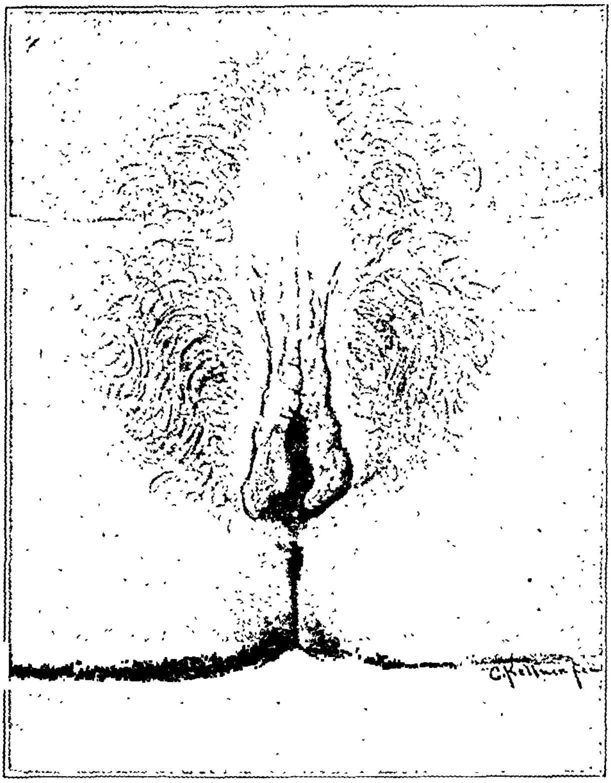

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[1] Young, H. H.: New Operation for Epispadias, J. Urol., Nov. 3, 1925; An Operation for the Cure of Incontinence Associated with Epispadias, ibid. **8**: 361 (Nov.) 1922.

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at this time showed no resistance of the sphincter muscle. The bladder mucosa was clear and glistening The internal orifice was noted to be widely dilated and thought to be represented by a small ridge or elevation The trigon was flat, and the bladder capacity was 200 cc

The laboratory tests did not show anything of value The Wassermann reaction was negative

The first operation was performed by Dr J M Flint, June 4, 1921, when an attempt was made to form a urethra and to produce a cosmetic result on the external genitalia The roof of the urethra was closed, the two halves of the clitoris were brought together, the labia minora and majora were approximated, and the mons veneris was reconstructed The patient recovered immediately from this operation (*fig 3*)

The patient was admitted the second time in October, 1921 There was a marked improvement in the appearance of the external genitalia, but there had not been any change as far as the control of urination was concerned Examination showed a long flaccid urethra without any musculature It was like a tube of mucosa The second operation was done Oct 26, 1921 At this time a plastic operation (Young's method) was performed on the internal orifice through a suprapubic incision The internal orifice was found widely dilated but very little muscle tissue was encountered with which to construct a sphincter There were a few rudimentary muscle fibers which, when shortened and plicated, gave an appearance of a sphincter but afforded little resistance This operation resulted in continence of urination at night, but incontinence persisted during the day in the standing position She was a stenographer and could sit at her desk for three or four hours after the operation, but was unable to walk a step without wetting her clothes

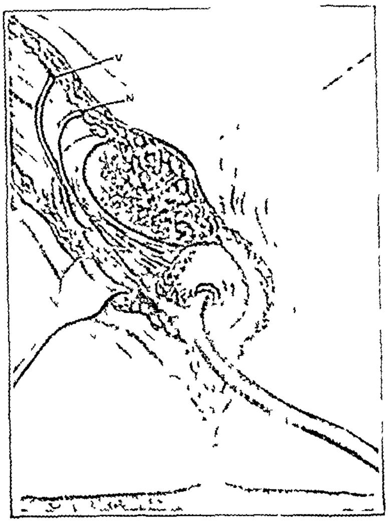

Fig 5 —Right gracilis muscle transplanted around urethra, showing nerve and vessels V nerve V, vessels

She was admitted for the third time in June, 1922 The urethra was about 5 cm in length, and had become somewhat dilated A third operation was performed to diminish the caliber of the urethra This was accomplished by taking out a V-shaped portion of the roof of the urethra The tissues about the urethra were void of any muscle tissue The canal was made very small but there was no improvement, as the patient seemed to have no evidence of control of urination while in the standing position.

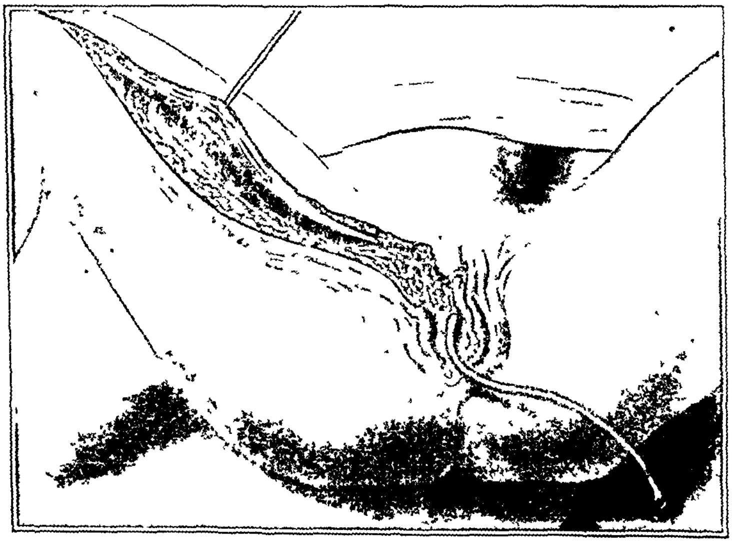

Fig 4 —Elevation of gracilis muscle before transplant

The fourth operation, the transplantation of the gracilis muscle, was done, April 17, 1923. The immediate result was good, as the patient did not have any incontinence while in the hospital. She could walk about the ward after the third week without any evidence of sphincteric weakness. After returning home she reported that she could not walk more than half a mile without a little incontinence She was given a series of exercises and electrical treatments, locally to increase the strength of the transplanted muscle The muscle tone was always good, and its electrical reactions prompt. After a year with periods of treatment and intervals of rest, she was able to walk for two hours and enjoy dancing and social life for the first time She has complete control and can void urine like a normal person (figs 4, 5 and 6).

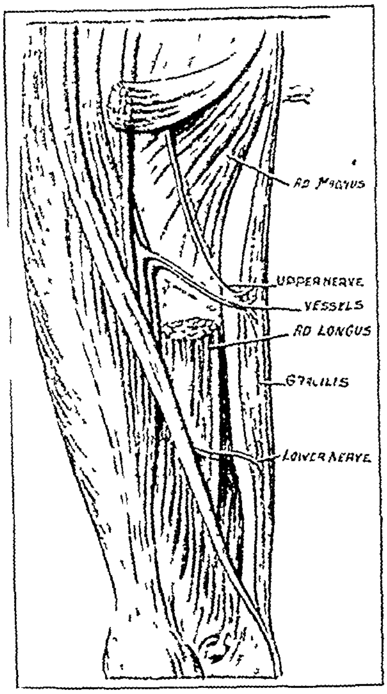

Fig 6 —Dissection of gracilis muscle, showing double nerve supply and vessels.

COMMENT

The operation for transplanting the gracilis muscle is not a difficult one. The incision is carried from the pubic spine downward over the middle of the thigh, which, if abducted, will readily disclose the course of the muscle in the most prominent portion of the operative field. The deep fascia of the thigh is opened, and the muscle in question traced downward well toward the knee. The muscle has a double nerve supply and can easily be freed together with its vessels It is desirable to get as long a muscle belly as possible and incise it between the two areas of nerve supply. The proximal portion can readily be wrapped around the urethra in which a catheter has been inserted, sutured back onto itself and fastened to the under surface of the pubic arch Fine double zero chromic sutures were used The subcutaneous layer was closed with zero plain catgut and the skin with interrupted black silk. The wound was painted twice a day with 1 per cent mercurochrome-220 soluble and the bladder was irrigated daily with potassium permanganate solution, 1:10,000. The wound healed by first intention, and the patient was discharged the third week.

There are several advantages in using the gracilis muscle. In the first place, the loss of its normal function does not in any way impair the locomotion of the patient. It is easily accessible, lends itself readily for transplantation, and has a double nerve supply. The nerves and vessels to the upper portion of the muscle lie so high up that a long belly of muscle can be turned upward without interference with these structures. Its transplantation is recommended for those cases of incontinence due to the congenital absence of bladder sphincters and in those cases in which the sphincters have been destroyed.

SUMMARY

Control of urination was accomplished in a case of epispadias with congenital absence of sphincter muscles of the bladder by the transplantation of the right gracilis muscle around the urethral mucosa. Previous plastic operations on the internal sphincter of the bladder and *the urethra had given good cosmetic results without* control of urination.

The transplantation of the gracilis muscle is not a difficult procedure, because of its accessibility, its large muscle belly, its double nerve supply and the preservation of its blood vessels. The transplantation of this muscle is recommended in those cases in which there is a congenital absence of the bladder sphincter musculature and in those cases in which the muscles have been destroyed.

HEMATURIA: ITS INTERPRETATION *

DANIEL N. EISENDRATH, M.D.
CHICAGO

In the past, we have usually associated the term hematuria with the variety in which the urine was visibly blood-tinged or contained clots. With the rapid increase of the number of life insurance and periodic health examinations, the significance of even microscopic hematuria has assumed a different aspect. For years, urologists have emphasized the importance of a thorough examination in every case of macroscopic hematuria; and although this cannot be too strongly urged today, the possibility of recognizing a bleeding nephritis, a ureteral stricture and other symptoms has made it vital to regard even the microscopic presence of blood in the urine as worthy of a painstaking search for its seat.

During the last decade, much light has been thrown on some hitherto obscure causes of hematuria, and my special object in this paper is to review these contributions and to attempt to correlate the various portions of a question that is of importance not only to the urologist but also to every other branch of the profession. The solution of the problem as to the source of bleeding may be very simple or it may be extremely difficult; hence, it is desirable to have some division into major and minor causes or seats so as to avoid overlooking, in our systematic search, every possible condition.

A very convenient working division is into:

1. Systemic causes.
2. Lesions of the structures immediately adjacent to the urinary tract; e. g, the appendix, and the internal genitalia of the female.
3. Lesions of the genito-urinary tract proper (only the principal renal lesions giving rise to hematuria will be considered in the present paper).

Of these, the last named form (fig. 1) constitutes approximately two thirds, and this again can be thought of as having the source of the bleeding located in the upper portion of the tract in an almost equal percentage of cases (fig. 1). The order of examination for cases of hematuria should therefore be (*a*) a thorough search through the medium of a good clinical history and a general physical examination for data bearing on the possible presence of conditions belonging to the major groups of systemic and juxta-urinary causes and (*b*) a complete study by one trained to apply the modern diagnostic methods developed in urology, so as to eliminate, one after the other, every possible lesion in the major group of the genito-urinary tract proper. A brief review of these is given below.

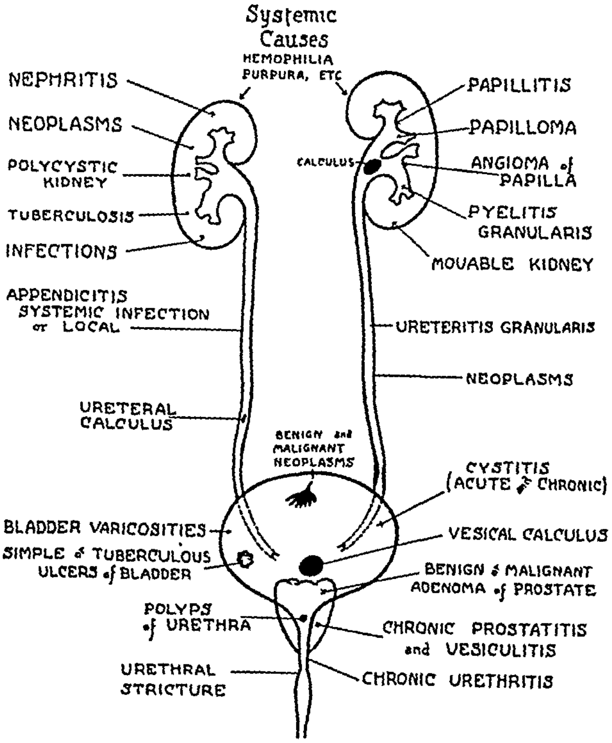

Fig 1—Various sources of hematuria.

SYSTEMIC CAUSES

1. *Hemophilia.*—Senator's theory that many cases of so-called essential hematuria were a form of hemophilia has been discarded. It cannot be denied that a hemophilic patient may have a hematuria as the only apparent evidence of this disease of the blood forming structures. In a series of twenty undoubted cases in patients more than 15 years of age observed by Locke and Minot,[1] there was no lesion except hematuria. The possible combination of some lesion such as a renal tuberculosis and of a true hemophilia must not be overlooked, as a case recently reported by M. Papin [2] shows. The urine was alternately clear and bloody, the hemophilia being complicated by a renal tuberculosis.

In taking the history of a case of hematuria, one should never omit questions as to the occurrence of ecchymoses after slight injuries and to take the coagulation time (much prolonged in hemophilia) as a matter of routine in every suspicious case.

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* Read before the Academy of Medicine of Northern New Jersey, Jan 27, 1926, at Newark.

[1] Locke, E A, and Minot, G R Hematuria as a Symptom of Systemic Disease, J A M A 83: 1311 (Oct 25) 1924.

[2] Papin, M: J. d'urol 20: 69 (July) 1925

2. *Erythemia (Polycythemia Vera).*—These patients may have normal color and not have an enlarged spleen. Hematuria is not rare and may be the only symptom, according to Locke and Minot. The diagnosis is possible only by complete histologic examination of the blood.

3. *Purpura Hemorrhagica.*—Hematuria may occur either associated with skin lesions or without them. Pretorius[3] has recently reported two cases belonging to the latter group. The bleeding may be from the kidney alone or associated with innumerable small or large, confluent or discrete, submucous hemorrhages in the bladder. There is often a history in these cases of spontaneous bleeding elsewhere, especially of excessive menstruation or of bleeding and bruising easily.

4. *Leukemia.*—Hematuria was observed by Locke and Minot in 15 per cent of 115 myelogenous and 20 per cent of eighty chronic lymphatic leukemias. In children, hematuria has been noted[4] as occurring in acute leukemia.

5. *Scurvy.*—Hematuria has been occasionally observed in adults and is not at all rare in children

6. *Hodgkin's Disease and Lymphosarcoma*—Locke and Minot saw hematuria in three cases in which the external manifestations of these diseases were slight.

7. *Hematuria After High Protein Diet and Exercise.*—There is still much work to be done along these lines, but there is some evidence[5] at hand to show that red blood cells can be found in the urine after high protein diet and also that similar findings occur in children[6] after exercise and also under the same conditions as orthostatic albuminuria. Whether red blood cells occur in the urine of normal persons is a question which also demands further investigation. Schulte and Noltring[7] found them in 84 per cent of fifty young persons and in 90 per cent of men over 35.

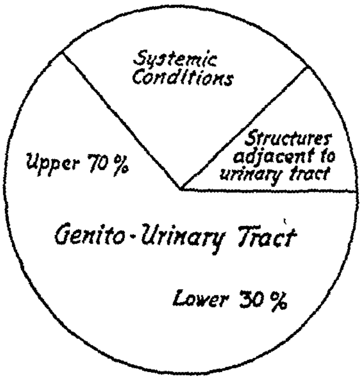

Fig. 2—The relative frequency of the different sources of hematuria when divided into major groups.

8. *Hematuria in Acute Systemic Infections.*—This will be discussed under the head of nephritis, because the underlying lesion is usually of this nature.

LESIONS OF THE STRUCTURES IMMEDIATELY ADJACENT TO THE URINARY TRACT

1. *Appendical Hematuria.*—We can no longer regard the hematuria (whether microscopic or macroscopic) which precedes, accompanies or follows an attack of acute or recurrent appendicitis as of purely local origin. A certain small proportion of cases are due, no doubt, to the close proximity of the appendix to the ureter, the infection being transmitted either by contiguity of the structures or by way of the lymphatics. In the majority of cases, however, there is ample clinical evidence to show that the hematuria is the result of an acute or subacute glomerulonephritis due to a hematogenous infection of one or both kidneys. Since we know that a unilateral nephritis is not at all rare, the knowledge of such a unilateral or bilateral infection serves to clear up many hitherto puzzling clinical observations. I refer to cases (*a*) in which the hematuria precedes the acute appendicitis symptoms; (*b*) in which it is observed first on the right side and after the subsidence of the attack of appendicitis or perhaps from one to two weeks after an appendectomy, recurs and is found to come from the left kidney, or (*c*) in which the blood is noted as bilateral during or shortly after the acute attack. It must not be forgotten that an appendicitis and a lesion in the urinary tract may coexist. I have observed this in a case in which a ureteral calculus was passed a few weeks after the removal of a gangrenous appendix.

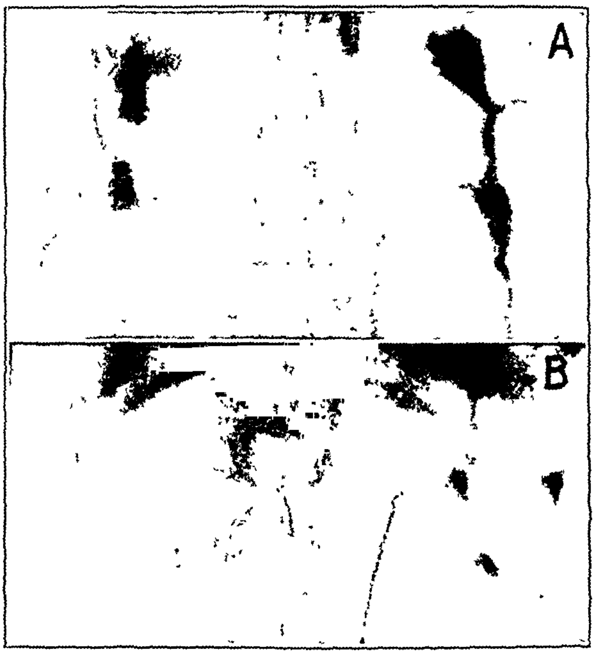

Fig. 3—Pyelograms from two cases of bilateral polycystic kidneys; characteristic dragon like distortion of calices.

In cases presenting symptoms of subacute or chronic appendicitis, the most important ureteral condition to be excluded is stricture, which may present the same clinical symptoms as a chronic recurrent appendicitis and the same microscopic and occasionally even macroscopic hematuria as in an appendical lesion.

As a rule the hematuria which complicates an appendicitis will disappear as soon as the appendix has been removed, so that operative intervention (decapsulation) is rarely necessary for a persistent hematuria due to the underlying glomerulonephritis.

2. *Menstrual Hematuria.*—This is a form of vicarious menstruation of which little is known by the profession in general. In a series of 201 cases of vicarious menstruation collected by Roth, it was vesical in nine and renal in two.

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[3] Pretorius: Ztschr. f. Urol. **18**: 191, 1924.
[4] Leebron: Arch. Pediat **40**: 607, 1923.
[5] Squier, T. L., and Newburgh, L. H.: Renal Irritation in Man from High Protein Diet, Arch. Int. Med **28**: 1 (July) 1921.
[6] Nassau: Ztschr. f. Kinderh. **29**: 133, 1921.
[7] Schulte and Noltring: Jahrb. f. Kinderh., 1915.

LESIONS OF GENITO-URINARY TRACT

The detection of the source of bleeding may be very easy, if the lesion is in the lower portion of the urinary tract, because of its accessibility to inspection. On the other hand, a prolonged search with exclusion of one cause after the other may be needed in the majority of cases of hematuria from foci in the upper urinary tract. Every diagnostic resource must be employed in a more or less routine manner by the urologist, and not until all the data have been gathered and compared should a conclusion be reached. We have found that if one visualizes in a diagrammatic manner (fig. 2) the various lesions in the genito-urinary tract which can give rise to hematuria, the problem of exclusion is greatly simplified.

It is beyond the scope of this paper to enumerate and describe these various sources of bleeding. A few of the more salient features of some of these lesions deserve brief mention, however, because our point of view has been greatly changed as the result of recent developments:

1. *Polycystic Kidney.*—This condition is the result of a developmental anomaly and may present itself clinically under the picture of persistent hematuria, often only of microscopic character, or as a massive hematuria, in both instances from either one or from both kidneys. The essential diagnostic features are the evidences of nitrogen retention in the blood, diminution in function, the peculiar "dragon-like" deformity in one or both pyelograms (fig. 3) and occasionally the ability to palpate nodules on the surface of one or both kidneys.

2. *Tuberculosis (Renal).*—In a small proportion of cases, the first symptom of this disease is hematuria following the breaking down of minute foci close to the renal pelvis. There is another form in which a symptomless hematuria is the principal feature. In this second variety, there is a nephritis on a tuberculous basis, revealing but little change on naked eye inspection of the removed kidney.

3. *Movable Kidney.*—The acute congestion following the dropping of the organ with kinking of its ureter is followed by hematuria of such severity as to resemble that so often seen in cases of renal neoplasms.

4. *Infections of the Parenchyma, Renal Pelvis and Ureter.*—That any one or all of the ordinary pyogenic infections of the parenchyma, the renal plevis and the ureters can give rise to hematuria is now generally accepted. In the case of infections of the parenchyma, the underlying cause is a nephritis on an infective basis, with resultant injury to the glomerular circulation. In the cases in which the infection of the renal pelvis or ureter predominates, the most common pathologic change is the appearance of multiple minute nodules of an inflammatory character, a condition now referred to as granular pyelitis or ureteritis (fig. 2). We often see the same changes as the cause of persistent bleeding from the vesical mucosa.

5. *Neoplasms of Parenchyma, Kidney Pelvis or Ureter.*—The only reason for mentioning neoplasms of the parenchyma, the kidney pelvis and the ureter is that the progress which has been made during the last five years in ureteropyelography enables the urologist to make a diagnosis of the presence of a neoplasm from the deformity shown in the pyelogram or ureterogram, at a period when it is often impossible to palpate any change in the size or contour of the kidney. Familiarity with the normal conditions is essential here as elsewhere in the interpretation of roentgenographic changes.

6. *Lesions of the Renal Papillae.*—Comparatively insignificant lesions, such as small angiomas or fibrous changes in the papillae, have been found to be the sources of hematuria in a fairly large number of cases.

7. *Renal Calculi.*—In a certain percentage of so-called silent cases, the only indication of the presence of a calculus is a persistent or recurrent hematuria of variable severity. The same is true to a lesser extent of ureteral calculi. Although vesical calculi may be the cause of hematuria in children, as a rule pyuria predominates in the clinical picture.

8. *Hydronephrosis.*—Hydronephrosis is not usually thought of as a source of hematuria. The bleeding may be quite severe and the initial symptom, as in a recent case in my service at Michael Reese Hospital, in which a sudden onset with hematuria as the predominant feature was followed by a rapidly enlarging hydronephrosis due to a ureteral kink at the outlet of the renal plevis.

9. *Embolism and Thrombosis of the Renal Vessels.*—In a recent case of hematuria due to this condition, the presence of a fibrinous exudate on the mucous membrane of the renal pelvis gave rise to such a deformity in the pyelogram that a diagnosis of renal neoplasm was made.

Too much emphasis cannot be laid in this connection (*a*) on the necessity on the part of the urologist, of familiarity with the many variations of the normal pyelogram, some of which may closely simulate the deformity due to a renal neoplasm; (*b*) to the fact that the presence of an exudate or of a blood clot in the renal plevis may result in a remarkable simulation of the deformities observed in neoplasms of the kidney; (*c*) on the fact that pressure from a greatly thickened perinephritic capsule or of an abscess in the perinephritic space may also cause a similar deformity of the pyelogram and, when associated with hematuria as they so often are, may deceive one.

10. *Nephritis.*—(*a*) Acute Glomerulonephritis: In this form, when it follows focal infections or occurs in embolic form in subacute bacterial endocarditis, the hematuria is the principal finding, there being no rise in blood pressure, few casts and not more albumin than is accounted for by the presence of the blood. After subsidence of the acute attack, the blood may persist for a long time, accompanied by traces of albumin and a slight rise in blood pressure.

(*b*) Acute Diffuse Glomerulonephritis: In this form, i. e., in involvement of the tubules as well as the glomeruli, the hematuria is accompanied by more albumin, casts, and rise in blood pressure than in the form in which the process is still confined to the glomeruli.

(*c*) Hematogenous Bacterial Nephritis: This form is distinguished from the first two by the constant presence of micro-organisms. The colon bacillus and the streptococcus are most often found, but the hematuria can be caused by many other bacilli. Heitz-Boyer has recently called attention to a syndrome in these cases known as the enterorenal; i. e., the alimentary symptoms appear simultaneously with the hematuria and follow as stormy a clinical course. In some cases, the infection of the urinary tract may be so severe that the bleeding is chiefly vesical in origin instead of renal.

In the majority of the cases, the hematuria is the principal feature of the clinical picture, there being no history of a focal infection elsewhere. In several of our cases, there was fever up to 103 F. In those cases in which nephrectomy was necessary, the kidney and its pelvis were studded with innumerable punctate hemorrhages. In some, pus formation follows and the hematuria becomes a less prominent feature but may persist over a long period.

(*d*) Nephritis Hemorrhagica (néphrite hématurique): Although the pathologic changes are bilateral, as a rule one of the following may be present: unilateral hematuria throughout the period of observation; hematuria at first from one kidney, later from the other, or bleeding from the two kidneys at the same time.

There are few if any findings that point to the kidney as the source of the blood; i. e., an absence of edema, a rise in blood pressure, heart changes and rarely any casts or albumin between the attacks. The general condition is good, and there is no change in the renal function or blood chemical findings. In some cases evidence of nephritis may develop later, but at the period when one would welcome such evidence it is absent. Ureteropyelography also fails to reveal anything abnormal. These are the cases to which attention has already been directed as to the necessity of care in the interpretation of the normal pyelograms. In approximately a fourth of the cases of hemorrhagic nephritis, the hematuria is either accompanied by pain or is preceded or followed by it. The pain may be colicky and may resemble, in its severity, accompanying reflex nausea and vomiting, as well as in its radiation, the syndrome so commonly thought of as due to calculous obstruction of the ureter. The pains may occur without hematuria as an independent condition known as nephritis dolorosa.

Instead of being colicky, the pain may be dull and aching in character, localized over one kidney and accompanied by the more or less constant presence of red blood cells in the urine. From time to time the pain again becomes more colicky, and the hematuria increases correspondingly in severity.

It is this last described group of cases to which the term "essential hematuria" was formerly applied. This has fortunately been discarded in favor of terms such as "hemorrhage from minute foci," or because lesions of one kind or another have been found sufficient to explain practically every case.

Every one who is called on to make a diagnosis by the process of exclusion in a case of hematuria should be familiar with the results obtained in the histologic examination[8] of a large number of these cases of bleeding nephritis.

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[8] Details as to the various lesions that have been histologically proved will be found in the article of Scheele, K., and Klose, H.: Arch. f. klin. Chir. **16**: 243, 1924.

Voltaire and Public Health.—Voltaire's interest in public health is shown not only by his desire to stamp out certain contagious diseases, such as smallpox and syphilis, but also by his references to other epidemic diseases, his condemnation of the insanitary condition of the Paris hospitals, the abuses connected with the administration of military hospitals, the crowded state of the Paris cemeteries, and the practice of burial in churches, as well as by his proposal to found maternity hospitals for unmarried women. In several of his historical works he recognized the importance of epidemic diseases, although the nature of the outbreak is not always stated. It is probable, however, that bubonic plague, typhus, relapsing fever, malaria and influenza were the principal diseases in question. In the Essai sur les mœurs (Chap. LXXIX) it is expressly stated that an epidemic of contagious dysentery caused the death of three fourths of the army of Henry V which had invaded France.—Rolleston, J. D.: *Proc. Roy. Soc. Med.* **19**:84 (Feb.) 1926.

BLOOD CALCIUM IN SPASMOPHILIA

SPASMOPHILIC MANIFESTATIONS IN AN INFANT OF FIVE WEEKS

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Few subjects have received more attention among pediatricians in recent years than the nature, relationships and manifestations of spasmophilia. Regarding many matters, definite and satisfactory conclusions appear to have been reached, while others are subjects of discussion. We agree, for instance, that within certain limits there is, in this condition, a distinct lowering of the percentage of the calcium in the blood; but as to just how this is brought about and just what its actual influence is, there is lack of positive knowledge. We admit that the influence of the parathyroid glands, and perhaps some other endocrine glands, is a powerful factor in some cases of tetany, and the same is true of certain gastric disturbances and of alkalosis; but whether this tetany is the same in ultimate origin as the infantile tetany of spasmophilia does not appear as yet to be decided. We know that the administration of calcium in large doses will usually promptly control the tetany, which is one of the chief manifestations of spasmophilia; yet its action is only a temporary one, indicating that there is some concealed cause which is maintaining the reduction of the blood calcium. We know that cod liver oil is to a large extent a specific although its action is often slow, while the employment of ultraviolet rays has a similar and much more rapid effect in restoring the normal hemic condition; but just what relationship there can be between these two measures, both so successful and yet seemingly so different, has been hard to explain. Recent investigations by a number of students, and especially by Hess and his associates, would indicate that the explanation is not so difficult as would at first appear.

The literature of spasmophilia is almost overwhelming, and there is no intention here of entering into a discussion of it. Reference will be made to only two interesting questions, the degree of blood calcium content and the age limits of spasmophilia.

DEGREE OF BLOOD CALCIUM CONTENT

It has been demonstrated,[1] as stated, that spasmophilia is characterized by a lowered blood calcium content, and that whenever this content falls as low as from 6 to 7 mg. per hundred cubic centimeters, active symptoms are liable to occur. It has also been stated that whenever the blood calcium reaches as high as within 20 per cent of the normal, active symptoms will disappear. That is to say, assuming the normal blood calcium at about 10 mg. to the hundred cubic centimeters of blood, a content of 8 mg. would place the child within the limit of safety, and no active evidences of spasmophilia would be discovered. A series of studies which we have made at the Children's Hospital of Philadelphia would appear to throw doubt on the invariability of this rule. The results are being reported in detail by Drs. Scott and Usher. Here I will merely report the history of two cases:

A. H., a negro boy, aged 11 months, who had been breastfed, had had convulsions on several occasions, for which he was brought to the Children's Hospital, May 5, 1924. While he was in the hospital, there were occasionally general convulsions; a very marked facialis symptom and laryngospasm were noticed; no Trousseau's sign could be detected. The blood calcium was 8.1, the blood phosphorus 1.5, and the cathodal closing contraction, from 2 to 2.5 milliamperes.

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[1] Howland, John; and Marriott, W. M.: Quart. J. Med. **11**: 298 (July) 1918.

This was a very decided case of spasmophilia. The blood calcium, however, was just above the amount considered normal to insure the absence of symptoms. The following case shows a distinctly higher blood calcium content:

M. H., a negro girl, aged 2 months, who had been breast fed, followed by a condensed milk mixture, and who had had no previous illness but was not well nourished, entered the Children's Hospital, Feb. 13, 1925, having been ill one day with general convulsions. All the limbs were more or less rigid; there was hyperflexion at the ankles; the facialis symptom was very positive; a possible but uncertain Trousseau sign was elicited. The blood calcium was 9.6, the blood phosphorus 6.3, and the cathodal closing contraction, 4.5. Convulsions occurred occasionally, but ceased promptly under full doses of calcium chloride.

Tetany is admitted to be of several varieties, and it is only of infantile tetany that the statement is commonly made that the calcium of the blood is invariably diminished. Yet the two cases cited above exhibited undoubted symptoms of manifest spasmophilia, with a blood calcium slightly within normal limits in one case and well within, in the other, as far as spasmophilic manifestations are concerned. In this connection, the comment of Ross [2] is of great interest and importance. His conclusions are that it is probably only the ionized calcium that plays a part in the production of tetany. That is to say, the blood calcium may be normal in amount and yet tetany may develop, because the ionized calcium has been diminished. If this is true, it may well explain the apparent discrepancy in the two cases reported.

What is especially to be noted then is that, whereas a diminished calcium content of the blood is nearly always present in infantile tetany, yet spasmophilia with definite active manifestations may be present in early life with a blood calcium practically normal and that, therefore, the ultimate diagnosis cannot be based on the blood calcium alone.

AGE LIMITS OF SPASMOPHILIA

My interest was stimulated by the account of the occurrence of manifest spasmophilia in an infant of 5 weeks, reported by Powers.[3] In this case there were repeated eclamptic convulsions, shown to be spasmophilic by the presence of a blood calcium content of 5.93, and a distinct increase in electrical excitability. There was no facialis or Trousseau symptom. Shortly after I read this report, the following case came under my observation:

E. B., a negro girl, born, Aug. 18, 1925, had been breast fed. The mother's diet before and after the birth of the child had been almost exclusively of milk, no fruits or vegetables being taken except a small amount of white potato and string beans, together with some meat. The infant was slightly premature and weighed 4½ pounds (2 Kg.) at birth. At the age of 5 weeks, she developed a general convulsive attack, accompanied by tonic rigidity of the limbs. Similar attacks frequently recurred, oftenest in the afternoon. The child was entered in the Children's Hospital of Philadelphia, October 5. She was then 7 weeks old, and had been ill two weeks. She was fairly well developed and nourished, but was in a condition of almost continuous spasm, both clonic and tonic; she was apparently unconscious and refused to nurse. At times, there were decided cyanosis and dyspnea. There was a very marked facialis symptom. The Trousseau symptom was very positive, and any attempt to elicit it brought on general eclamptic convulsions, if these were not already present. The hands and feet were constantly in the position of tetany. The blood calcium, taken on the following day, gave only 5.3 mg. per hundred cubic centimeters. The hemoglobin was 48 per cent; the Wassermann reaction was negative; the urine showed a faint trace of albumin without casts. Treatment consisted in exposure to ultraviolet rays, the administration of phosphorized cod liver oil and of calcium lactate, 15 grains (1 Gm.) every four hours, and continuance of breast feeding with cow's milk as needed. The infant improved during two days, the eclamptic condition becoming decidedly better, although the signs of tetany remained. She died suddenly, October 10. No necropsy was permitted.

Finkelstein [4] and others have pointed out that there is some element in cow's milk which is an especially active factor in producing the disease, and that the giving of breast milk is one of the best methods of treatment. For this to hold good, however, it is evident that the breast milk must contain certain necessary substances in proper amount, and the diet of the mother is naturally of influence here. The infant whose case is reported developed tetany and eclampsia on a diet solely of breast milk. The diet of the mother was distinctly improper, but whether this was the cause of the condition of the child we had no opportunity to determine. The early death of the patient and the subsequent disappearance of the mother interfered with a number of studies which would otherwise have been made. For this reason, for instance, it was not determined whether the mother exhibited any abnormal mechanical or electrical reactions. The importance of the diet of the mother is stressed by Brown, Courtney, Tisdall and MacLachlan [5] As regards the occurrence of the facialis symptom in mothers of infants who develop tetany, Glejzor [6] found this twice as frequent in infants born of mothers who themselves exhibited it, and Schultze [7] observed it sixteen times in the mothers of forty children who had a facialis symptom. This, however, is not conclusive; and it must be admitted that even the discovery of the mechanical or electrical hyperexcitability in mothers cannot be taken as positive proof of any spasmophilic state.

Blühdorn [8] well expresses the view that, in the majority of eclamptic convulsions up to the age of 3 or 4 months, organic causes predominate. In the instance reported here, the other evidences of spasmophilia indicate beyond doubt that the eclampsia was of a spasmophilic nature, and it usually is in infants past the age of 4 months.

Regarding the age limits of spasmophilia, the upper limit has been extensively discussed and the opinions expressed are much at variance. Schultze,[7] for instance, from the study of 1,648 children of from 6 to 14 years of age, concluded that the increased mechanical and electrical excitability must be considered pathognomonic for spasmophilia in more than two thirds of the patients examined by him, and Blühdorn [9] also regards the facialis symptom as very suggestive of spasmophilia when occurring in subjects of the school age. On the other hand, Glejzor [6] discovered the symptoms in 57.6 per cent of 1,285 children of from 6 to 15 years of age, a frequency too great to be significant at this age. Graham and Anderson[10] obtained similar results, i. e., 29 per cent of the facialis symptom in 1,723 subjects of from 5 to 18 years, and showed that at this period of life it cannot be called an evidence of spasmophilia because it is unattended by any alteration of the content of the blood in calcium. Similar results as to the failure of the development of a diminution in the blood calcium in cases of the facialis symptom after the age of 4 years were reported by Mosse.[11]

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[2] Ross, S. G.: Canad. M. A. J. **13**: 97 (Feb) 1923.

[3] Powers, G. F.: Tetany as a Cause of Convulsion in Very Young Infants, J. A. M. A. **84**: 1907 (June 20) 1925.

[4] Finkelstein: Fortschr. d. Med. **20**: 665, 1902.

[5] Brown, Alan; Courtney, A. M.; Tisdall, F. F., and MacLachlan, I. F.: Arch. Pediat. **39**: 559 (Sept.) 1922.

[6] Glejzor: Jahrb. f. Kinderh. **89**: 106, 1919.

[7] Schultze, A.: Monatschr. f. Kinderh. **22**: 484 (Dec.) 1921.

[8] Blühdorn, K.: Berl. klin. Wchnschr. **56**: 462, 1919.

[9] Blühdorn, K.: Med. Klin. **16**: 1099 (Oct. 24) 1920.

The great difference of opinions, as here shown, makes it difficult to come to any conclusions. Lack of space prevents the citation of other writers for or against the significance of the increased electrical and mechanical excitability; but the decided preponderance of opinion appears to be to the effect that these conditions, occuring after infancy, or more particularly after early childhood, cannot be regarded as evidence of spasmophilia.

Regarding the lower limits of the active spasmophilic symptoms, less has been written. A useful and very thorough contribution on the subject was published some years ago by Wolff.[12] He reviewed much of the literature of the subject, and quoted in detail a considerable number of cases in which spasmophilic symptoms had been observed in the first two months of life. To this were added fifteen of his own cases in children in the first four months of life, one of these being but 4 weeks old and five others but 2 months of age. The conclusions were to the effect that the appearance of spasmophilic manifestations in the first four months of life, although less common than later, cannot be looked on as of rare occurrence.

The subject was soon discussed by Klose[13] in a strongly polemic manner, with an analysis of the cases collected by Wolff. He concluded that none of them were beyond question spasmophilic, and that the age of 2 months is the absolute lowest limit for the development of manifestations of the disease.

Nassau,[14] however, reported thirty-six infants with active spasmophilic symptoms, of whom sixteen were less than 5 months of age and seven of these less than 2 months. In all of the sixteen cases, there was electrical hyperexcitability, in fourteen, the facialis symptom, and in fifteen general eclamptic convulsions, thus leaving no doubt as to the diagnosis of manifest spasmophilia.

Regarding, then, the lower age limit for the development of spasmophilic symptoms, there is again a difference of opinion, and the reports of the Powers case and the one I recorded are of value in showing, by the newer test of diminished blood calcium, as well as by the hyperexcitability that, even in the early weeks of life, manifest spasmophilic symptoms may show themselves.

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[10] Graham, S. G., and Anderson, G. H.: Lancet **1:** 1307 (June 28) 1924.

[11] Mosse, K.: Jahrb. f. Kinderh. **99:** 244 (Sept.) 1922.

[12] Wolff: Arch. f. Kinderh. **66:** 385, 1918.

[13] Klose, E.: Arch. f. Kinderh. **67:** 439 (Oct.) 1919.

[14] Nassau, E.: Ztschr. f. Kinderh. **28:** 310 (April) 1921.

Promoting Sleep.—A glass of orange juice or of warm milk sipped slowly just before retiring sometimes is a sleep inducer, especially beneficial to one who is undernourished. A warm bath encourages sleep for some but makes others wakeful. Sometimes a hot foot bath or lying in a tub nearly filled with water, at a temperature sufficient not to chill the body, is a good method of preparing the body for sleep.—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 94.

END-RESULTS OF TONSILLECTOMY

WITH ESPECIAL REFERENCE TO THE LEGAL RESPONSIBILITY *

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No subject in medicine has caused greater discussion during the last fifty years than the faucial tonsil. Innumerable papers on every phase of it, medical, surgical, physiologic, pathologic, have been written. The laryngologist has been the object of constant ridicule and attack on its account. During recent years, however, the pendulum has swung in the other direction. No longer is the laryngologist solely responsible for the removal of the tonsils. Internist, otologist, pediatrician, all have united in urging the removal of this alleged source of all human ills until the operation has become one of the most frequent in surgery. The Baltimore laryngologist who charged his friend "with paving the street in front of his office with tonsils" may be recalled. At present it would rather be, for many enthusiasts, a case of "blocking off the street with tonsils." The successful "tonsillectomist who cannot boast of having slain his thousands if not his ten thousands of tonsils" is an exception. The seriousness of the operation has been minimized to such an extent that general surgeon, children's specialist and general practitioner all regard themselves competent to perform it. Inevitably, there have been many bad results, due at times to unavoidable causes but in many instances to faulty surgery. As a result, accounts of damage suits have filled the air. The officers of the Section of Laryngology of the New York Academy of Medicine have felt that it is a timely matter to know just what the grounds for these actions have been and what legal responsibility and rights a surgeon has in performing this operation. With a view to getting as accurate data on the subject as possible, a questionnaire was sent to a thousand leading laryngologists, inquiring particulars of all suits threatened or begun in connection with the tonsil operation of which they were aware, the grounds for the action and the outcome of the suits. Replies were received from approximately one third. In addition, similar requests were made of the secretaries of the state medical societies obligated to defend their members in malpractice suits.

These replies are open to the criticism that they represent work in the main done only by trained operators; that of the great body of unskilled operators who would be most likely to perform faulty work is unaccounted for. It has been necessary also to depend chiefly on the reports furnished by physicians and to dispense with the benefit, with a single exception, of the statistics in the possession of the several medical defense companies, particularly of one that claims to have handled more than 18,000 claims and which has refused to supply any information.

The nearly 300 replies, however, being from all sections of the country and including reports from the secretaries of the medical societies of twenty-two of the largest states, may be regarded as of sufficient accuracy to warrant careful analysis and form the basis of certain deductions. Many of the replies disclaim any knowledge of malpractice suits. A number stated that their statistics represented well above ten or twenty thousand operative cases.

There were 124 suits for malpractice, including those from New York State, threatened or instituted. Thirty-

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* Read before the New York Academy of Medicine, Dec. 17, 1925.

nine were not pressed by the plaintiff, five suits were only threatened, and in eleven the final outcome is unknown, a total of fifty-five cases, or nearly half the entire number. Of the remaining sixty-nine, twenty-four, or one third, were settled privately. Of the remaining forty-three, twelve were dismissed by the judge without trial and twenty came to trial. In five of these a verdict was secured for the plaintiff; the remaining fifteen were decided in favor of the defendant. In only five cases has there been a second trial; in three of these a verdict for the plaintiff was reversed in favor of the defendant. In other words, out of the 124 cases threatened or instituted, only five were decided in favor of the plaintiff.

The following are the chief grounds of the suits threatened or instituted:

1. Negligence or carelessness during operation or subsequent to operation, 25.
2. Lung abscess, 5.
3. Breaking off of needle, 1.
4. The anesthesia, 13.
5. Postoperative hemorrhage, 9.
6. Operating without permission, 5.
7. Use of radium causing death, 1.
8. Operating during or too soon after diphtheria, 4.
9. Removal and sloughing of palate, 12.
10. Removal of uvula, 16.
11. Removal or contraction of pillars, 8.
12. Teeth knocked out, 5.
13. Death due to operation, 31.
14. Loss of eyesight, 1.
15. Loss of singing voice and speaking voice, 4.
16. Pleurisy following operation, 1.
17. Paralysis, 1.

CASES OCCURRING IN THE STATE OF NEW YORK

Fifteen cases came to the office of the counsel of the Medical Society of the State of New York. We have no way of ascertaining what proportion this represents of the actual number of suits threatened or privately settled, but it does represent the total number actually defended by the present counsel of the state society since he has been in office, only five years. These five years, however, have been prolific in tonsil operations. In the light of all that has been said of malpractice suits, it is noteworthy that records of only fifteen cases in the state are obtainable.

Five cases were for "negligence or carelessness during or subsequent to operation." In one case the action was for lung abscess following operation. In another it was for breaking off of the needle in local anesthesia; in two, for postoperative hemorrhage; one, for operating without permission; another, for using radium, causing death; another, for operating during diphtheria, and two for removing the palate during operation.

Two were dismissed by the court at trial; four were never pressed by the plaintiff, in all probability because of his recognized inability to establish claim. In order to do this, the testimony of a competent medical witness is essential.

Four are still pending, and three were settled privately out of court. In the first case, the counsel of the state society felt that the defendant had not done all he should have done in the proper care and attention of the patient. Liability was recognized in the second, in which a wrong strength of local anesthetic was used, causing sloughing and partial closing of the mouth. The third case was for failure to exercise proper care in remaining after the operation and in staying excessive hemorrhage.

Of the entire number, only two came to trial. Both resulted in a verdict for the defendant. The record of one of these on many accounts is the most instructive of the entire number, because at the first trial it was decided in favor of the plaintiff, and then was appealed and decided in favor of the defendant. The complaint was (1) that the physician had not exercised reasonable skill and care, as he gave a local instead of a general anesthetic; (2) that he should have known that he broke a needle off in injecting the tonsil, and (3) that he should have extracted the needle or made an effort to extract it before he removed the tonsils. On the retrial, the defendant was able to show that it was the accepted practice to use local instead of general anesthesia in removing tonsils in an adult, and in regard to the second and third specifications that he was aware of the breaking of the needle and made every attempt to remove it before he proceeded with the removal of the tonsils. This established the law in New York as applied to breaking of needles in local anesthesia.

CASES DECIDED IN FAVOR OF THE PLAINTIFF

Of the twenty cases that came to trial in the entire United States, five were decided in favor of the plaintiff:

Case 1 was for mutilation of the tonsil pillars and adhesions, shutting off the nasopharynx, making breathing and articulation difficult. No details were given in regard to the instruments used. "Want of ordinary and reasonable care leading to bad result" was the verdict rendered.

Case 2 was not strictly a suit for malpractice but one for breach of contract, on the ground that the physician performed the operation without the patient's consent.

Case 3 was for a lung abscess following the operation together with the removal of the uvula. The counsel of the medical society of the state in which it occurred desired to appeal the case, but the defendant preferred not to do so.

Case 4 was for negligence resulting in cutting the tongue. "Want of ordinary and reasonable care leading to bad result" was again the ground for the verdict.

Case 5 was for breaking the teeth. This was settled privately at the time of the second trial.

CASES DECIDED IN FAVOR OF THE DEFENDANT

The details of the fifteen cases decided in favor of the defendant are equally instructive. Two were not strictly malpractice cases, as they had to do with the question of "lack of consent," regarded in some states as assault and battery and in others as breach of contract. The remaining thirteen all had to do with questions of fact, in the main whether the grounds for the action constituted "want of ordinary and reasonable care leading to a bad result." Five had to do with death following the operation. In all of these the jury decided that the operator had exercised reasonable care and was not responsible. In the first of the five, the death was due to hemorrhage.

The second case resulting in death, reported by Dr. Burt Shurly of Detroit at the meeting of the American Laryngological Association in Washington last spring, was for breach of contract in administering a local anesthetic (cocaine) after having agreed to administer a general anesthetic. The patient was a youth, aged 19, weighing 175 pounds (80 Kg.). In accordance with the general routine of Dr. Shurly when not otherwise arranged for, preparations had been made for general anesthesia. As the lad entered the operating room, he met a patient coming out who had just been operated on under local anesthesia. The boy expressed a desire to have local anesthesia employed in his case, which was done. He died under the anesthetic. The plaintiff at trial was unable to establish her claim of breach of contract, and the case was decided in favor of the defendant. It has been appealed, but in the opinion of Dr. Shurly's attorney the case never will come to trial. This case is deserving of attention, first, because the trial judge ruled that in spite of being a minor, under the guardianship of his mother, the boy had arrived at such mental development as to be able to choose what anesthetic should be administered to him; secondly, because of the importance of making all arrangements for the operation, including details of anesthesia, price, etc., as definite as possible and in the presence of a third party if possible or in writing, to avoid all occasion for dispute in the future.

In the third case decided in favor of the defendant, the plaintiff claimed that a wrong diagnosis had been made and that the surgeon operated by mistake in a case of diphtheria resulting in death. This case was decided in favor of the defendant, then appealed, and again decided in his favor. As in the others, the question of fact was the controlling factor. The fourth case was death from status lymphaticus. The defense successfully maintained that status lymphaticus cannot with certainty be diagnosed at the time of operation. In the last of the five, infection following operation due to the operator's want of care, causing death, was the claim of the plaintiff.

Four of the fifteen cases in which a verdict was returned for the defendant were for the removal of the uvula. One of the four was appealed and the original verdict in favor of the plaintiff reversed by the higher court. The grounds for the reversal had to do with a question of law and not with the liability of a surgeon for removal of the uvula. The second of the four cases had to do with a question of fact. It was shown by the defendant at the trial that the uvula had not been removed. In the remaining two cases the defense admitted the removal of the uvula.

In spite of the outcome in these cases there is no warrant for regarding removal of the uvula as not rendering liable to action. It is necessary, however, in order to establish liability, to show failure to exercise proper care, and that the surgeon did not remove it for some reason which was to him good and sufficient.

The tenth case was for the loss of the singing voice, involving a question of fact which could not be sustained.

Two cases had to do with incomplete operation, a portion of the tonsil not having been removed. So far as this verdict goes, it would appear that an incomplete operation is not in itself a recoverable ground for action. For this, it must be shown that the surgeon agreed in advance completely to remove the tonsils. On his part he may be able to prove that a good and sufficient reason existed as, for instance, hemorrhage or the state of the patient due to anesthesia, why he did not do a complete operation.

Case 13 was for hemorrhage following operation, wherein the defendant was able to show no neglect on his part as a cause.

Case 14 was for breach of contract, it being claimed that the surgeon without permission removed the tonsils when he had the consent of the guardian only to operate on the eye. Here again a question of fact was involved.

The last was a case of dislocation of the vertebrae with paralysis developing after operation.

CASES DISMISSED BY THE JUDGE

A study of the twelve cases dismissed by the judge is indicative of the attitude of the judiciary in such cases. All hinged on the question of fact as to the failure of the surgeon to exercise proper care.

Case 1 was for secondary hemorrhage, dismissed on technical grounds. Cases 2, 3, 4 and 5 were for death following operation.

The last of these shows the importance of a surgeon contesting a threatened action when he is in the right. The surgeon was sued for $40,000. He would not allow the insurance company to compromise the case, which later came to trial and was thrown out of court without reaching the jury.

Case 4 had to do with death following operation.

Case 6, in which it was claimed that teeth were loosened and a tooth got into the lung, was dismissed after pending three years.

Case 7 involved a claim for breaking a tooth.

In case 8, claim was for an incomplete operation. Here the case was dismissed because it had become outlawed. The circumstances in it are illustrative of many similar cases. The surgeon had told the patient that he had left part of the tonsil in the throat. With this information she employed a "shyster" lawyer to sue him for $20,000 damages.

Cases 9 and 10, occurring in the state of Washington, were for alleged negligence in performing the operation.

In case 11, complaint was of hemorrhage and negligence in performing the operation.

Case 12 was not pressed by the plaintiff.

CASES SETTLED OUT OF COURT

Of the 124 suits threatened or instituted, twenty-four were settled out of court. A study of the details of these cases is particularly instructive. The ground for settlement in some was that the state society or insurance company was satisfied that the defendant was liable on account of his failure to exercise reasonable care during or subsequent to the operation. In other cases the defendant did not care to be burdened with the annoyance incident to defending the case. In a certain number it would appear that an adequate ground for defense existed and that there would have been a good chance if the case had been allowed to come to trial to disprove the claim of the plaintiff.

Eleven of the twenty-four cases, or nearly half, were for removal of the pillars and soft palate. (Two of these were settled privately after a jury trial resulting in a verdict for the plaintiff.)

One was for permanent injury to the voice. One was for death during operation from status lymphaticus. It will be recalled that one of the cases which was decided at trial in favor of the defendant was for status lymphaticus. It is quite possible that this case also would have been decided favorably for the defendant if allowed to come to trial. Two of the twenty-four cases were for the employment of a wrong strength of solution for local anesthesia, in one case causing death and in the other sloughing and partial closing of the mouth. The liability was recognized in both of the claims, and they were adjusted without trial. Four cases were for negligence in the failure to see the patient when bleeding, resulting in death. Two were settled out of court on advice of counsel. Both patients were operated on in the office. They are striking examples of the importance of performing all tonsil operations in a hospital, and of the surgeon's providing competent after-care of the patient. Two cases were for removal of the uvula.

One case was for incomplete operation, one for broken tooth, and one for death following operation.

CASES THAT CAME TO TRIAL AND WERE LATER APPEALED

Malpractice suits in connection with the tonsil operation are of such recent origin that judicial decisions are not numerous. The opinions of the higher court in the five cases heard on appeal are on that account deserving of consideration.

The first case, already referred to, had to do with the breaking off of a needle in the injection of a local anesthetic. The ruling of the higher court which reversed the decision of the lower court was that it had been proved at the first trial that it was within the judgment of the surgeon to select a local anesthetic when he desired, based on the usual practice in the matter. The plaintiff did not make the breaking off of the needle a cause for action, but the not knowing on the part of the defendant that he had done so and failure to attempt to recover it. Both claims were disproved at trial.

The second case was one for negligence in cutting the tongue during the operation. The trial court gave a judgment in favor of the plaintiff which was affirmed by the higher court, which, in handing down its opinion, sustained the charge to the jury of the trial judge that "even though they believed the defendant possessed all of the qualifications to be a competent and skilled physician and surgeon, yet if it was proved that he was careless and negligent in performing the operation described, as carelessness and negligence were defined in the instructions, and through such carelessness and negligence the plaintiff's tongue had been permanently injured and disfigured, then the mere fact that the defendant may have been competent and skilful constituted no defense to this action."

The third case was an action brought for removal of the uvula in the course of a tonsil operation. The verdict for the plaintiff rendered at the first trial was reversed by the supreme court of North Dakota on the ground that "there was error in the admission of evidence concerning irrelevant matters and in submitting the competence of impeaching testimony to the jury." This opinion is so important in its bearing on liability in removal of the uvula that a digest of it is given:

> The supreme court of North Dakota, in reversing a judgment of $10,333 damages that was rendered in favor of the plaintiff, says that her mother testified that in 1915 she took the plaintiff, then a girl 8 years old, to the office of the defendant to have her adenoids removed. The girl, 15 years old at the time of the trial in 1922, said she went there to have her tonsils removed. An operation was performed, and the mother discovered a few days afterward that the plaintiff's uvula was gone. The mother and the plaintiff testified that, following the operation, the plaintiff choked when she tried to swallow food, especially solids; food and water tended to go the wrong way; the plaintiff's voice was affected and she did not sing after the operation, although she did before quite well; she suffered from frequent and severe headaches, colds and earaches after the operation but not before; she had difficulty in swallowing and in talking, and her enunciation was affected.
>
> It was undoubtedly the duty of the plaintiff to establish by a preponderance of the evidence that the condition complained of by her was caused by the negligence of the defendant, and therefore it became incumbent on her to trace a causal connection between the ailments detailed and the loss of the uvula. The evidence on this point was not of the most convincing or satisfactory character from the standpoint of the plaintiff. But this court is not prepared to say that the testimony of the expert witness for her was not sufficient to create a conflict and, since the jury found on that testimony in favor of the plaintiff, as far as the resulting injuries and the damages were concerned, this court is not prepared to say that there was no substantial evidence in the record to support the finding of the jury in this regard.
>
> In the absence of evidence to the contrary, the law presumes the exercise of a reasonable degree of care and skill by a physician and surgeon, and that the defendant was innocent of wrong. Nor would the fact that defects appeared after the operation or treatment, unless of such a character that negligence must be assumed from their unexplained presence which was not the case here, constitute evidence of negligence. The maxim of res ipsa loquitur (the thing speaks for itself) had no application. Negligence will not be imputed to a physician without evidence or proof thereof.
>
> Complaint was made of the instructions of the trial court with reference to the weight of expert testimony. The court said, in substance, that expert testimony was not binding on the jury, but that the jury was at liberty to give it such weight as the jury deemed the testimony fairly entitled to. There was conflict in the expert testimony on matters beyond the province of lay witnesses to explain or understand. It may be that the instruction was open to criticism; but, on the whole, the supreme court thinks that it fairly submitted to the jury the proposition that the weight of the evidence was for the injury and that, as between conflicting evidence, expert as well as otherwise, the jury must decide. This was not a case in which all the expert evidence was one way on technical matters wholly beyond the knowledge or experience of ordinary witnesses. A case may be conceived in which it would be improper for the jury to disregard expert testimony. This court does not decide in this case that there may not be instances in which a jury would not be justified in disregarding uncontradicted expert testimony—its decision is that the case at bar did not call for the application of that doctrine, or for a discussion of that question. All the experts admitted that much doubt and uncertainty existed among medical men as to the function, if any, of the uvula. Nor is the jury required to believe the testimony of defendants as to the conditions found to exist.

The fourth case was for alleged dislocation of the vertebrae during the operation, with subsequent paralysis. A judgment was handed down by the trial court in favor of the plaintiff. This was reversed by the higher court on the ground, as claimed by the defense, that the patient at the time of the operation was suffering from poliomyelitis. The fifth case was for alleged wrong diagnosis—operating during diphtheria, causing death. This involved a question of fact, was decided in favor of the defendant, and on appeal was again decided in favor of the defendant.

COMMENT

The one outstanding principle in malpractice suits recognized by courts in all the states is forcibly illustrated in three of the four cases decided in favor of the plaintiff; namely, that want of ordinary and reasonable care leading to a bad result is legitimate ground for action. This is clearly expressed in section 7 of the medicolegal principles of the Medical Society of the State of New York:

> A physician is liable for an injury to his patient resulting from want of the requisite knowledge and skill or the omission to exercise reasonable care or the failure to use his best judgment. He is bound to keep abreast of the times, and a departure from approved methods in general use, if it injures the patient, will render him liable, however good his intentions may have been. To render a physician liable there must be a want of ordinary and reasonable care leading to a bad result. This includes not only diagnosis and treatment, but also the giving of proper instruction to his patient in relation to conduct and exercise. Mere error of judgment does not make him liable, provided he does what he thinks is best after careful examination.

A number of deductions seem warrantable from a study of this mass of data.

1. The number of malpractice cases, in the Eastern states at least, does not appear to be at all in proportion to the total number of tonsil operations. If such suits are common, they must be settled privately and are not known either to the state society legal representatives or to medical men generally. Reply after reply of those received professed never to have heard of such cases. In line with this is the statement of the New York representative of one of the great medical defense companies to the effect that in a period covering many years and many thousands of risks he did not recall more than twenty-five cases dependent on the tonsil operation coming to his office. Not more than ten came to trial, and all were decided in favor of the defendant. The remaining fifteen were dropped or settled out of court for a small amount. The chief ground for action was cicatricial contractions in the throat following the operation.

2. The actual number undoubtedly is on the increase. This is due in part to the greatly increased number of operations and in part to the incompetence of the operator.

3. The bringing of such suits is dependent in most instances on injudicious criticism of brother practitioners or on efforts of commercial lawyers.

4. Almost every conceivable ground for action has been employed, but not one of these per se renders the operator liable to action. All depend on the single question, Did he exercise reasonable care and skill in the operation and proper after-care? Lung abscess, of which there were five cases; postoperative hemorrhage, of which there were seven; removal of the uvula, of which there were sixteen, even death itself, of which there were thirty-one, is not to be regarded as by itself sufficient to render the operator liable.

The surgeon must constantly recognize his potential liability and take every precaution to avoid every possible ground for action. He is at liberty to operate wherever he may choose, but it cannot be too emphatically stated that the operation is a capital one and one that except under exceptional conditions never should be performed in the office but always in a suitably equipped hospital, the patient to remain at least one night after the operation. We are aware of the usual reasons urged in favor of operation in the office. None of them, however, in our judgment, is sufficient to warrant taking the risk which it entails.

Even when performed in a hospital, a poor result will not prevent a surgeon from being held liable for damages if it can be shown that it was due to the lack of reasonable care, although public hospitals themselves, i. e., hospitals not chartered for gain, cannot be held liable for anything occurring in connection with an operation, provided it is performed by a surgeon whose competence it has inquired into and satisfied itself of, in advance of the operation. The surgeon-in-chief, when present, is responsible for all acts occurring in the operating room, whether of an assistant or nurse. If he is not present he is not responsible for what takes place in the operating room. In that case the assistant surgeon performing the operation is responsible.

Far and away more common than any other ground for action, indeed, equal to all others combined, is want of ordinary and reasonable care, leading to a bad result.

To establish the contention of not exercising reasonable care is not an easy matter and undoubtedly is the reason why so many suits threatened or begun were discontinued. This requires the testimony of an expert witness, and few medical men of repute are willing thus to injure a brother practitioner's reputation, especially as there are often extenuating circumstances in connection with the operation of which they personally are unaware, and which may be accountable for any bad result that may have taken place.

Twenty-four of the entire number of the 124 cases were settled privately, almost all on advice of counsel because of the recognized faulty surgery, including removal of the uvula, that had been done. As every one who has had a large experience in tonsil work is aware, the removal of the uvula is not an uncommon occurrence. I can say, however, that I have never seen a case in which the uvula alone has been removed or even the tonsillar pillars wounded or removed, in which I could recognize any evil consequences. Indeed, years ago, it was a common practice to remove the uvula for certain catarrhal symptoms. The cases in question for the most part involved much more than injury to the uvula and pillars. There was a history of extensive adhesions shutting off partially or completely the nasopharynx. It is difficult or impossible to explain such traumas except through gross incompetence. There exists no law prescribing who shall perform the tonsil operation and, apart from the impossibility of enforcing such a law, it would be unwise to urge it. The same result, however, can be secured in another way. The rhinologists of the country should constitute themselves a body to educate the public in the importance of the tonsil operation and the necessity of its being properly performed. When thus educated, the public will put itself in the hands only of those who are competent to perform the operation.

The largest single step in this direction recently has been taken by the organizing of the American Board of Otolaryngology, composed of representatives of the four national societies specializing in those subjects, who are authorized to pass on the qualifications of each candidate and, when satisfied of his competence, give him a certificate of approval. In the short time that it has been in existence, one year, 600 have received such certificates. It is the confident hope of those interested in the elevation of the standard of otolaryngology in this country that within a short time every one entitled to the certificate will have made application for it and received it. A general support of this movement by the members of the four national societies and of similar societies throughout the country, such as the Section of Laryngology of the New York Academy of Medicine, by applying promptly for the certificate of the board and displaying it in the office, will do more than all else to discourage and shut out the six week "tonsillectomist" whose only claim to recognition is the sign in his window advertising him as an ear, nose and throat specialist. The example of the members of this section in applying for the certificate will have a large influence in bringing this about.

In spite of the fortunate experience of most of us in never having been annoyed by a malpractice suit, it is possible for this to occur to any one even after the greatest care in the operation has been exercised. This is the experience of several of those whose cases have been reported in the foregoing. The defense work done by the several state societies and especially by that of our own state society, is deserving of the heartiest commendation, as well as the importance of every surgeon taking advantage of the protection afforded by suitable liability insurance, preferably underwritten as it is in this state by the state medical society itself.

MORPHINE HUNGER AND THE SMOOTH MUSCLE REACTION

A STUDY OF THE HABITUÉ

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The balance of the vagus and sympathetic parts of the vegetative nervous system is influenced by the action of morphine, as is well seen in the contraction of the pupil. The chief function of the vegetative nervous system is its control over smooth, or involuntary, muscle as is found in the pupil, the stomach, the intestines, the heart, etc. In a study of the smooth muscle reaction of the stomach and large intestine as a means of estimation of the vagus-sympathetic balance of the vegetative nervous system, we found that the gastro-intestinal smooth muscle, as viewed by the roentgen ray, could be used as an index or criterion, and this we have called the smooth muscle reaction.[1] Blood pressure effects are also expressions of the influence of the vegetative nervous system on smooth, or involuntary, muscle.

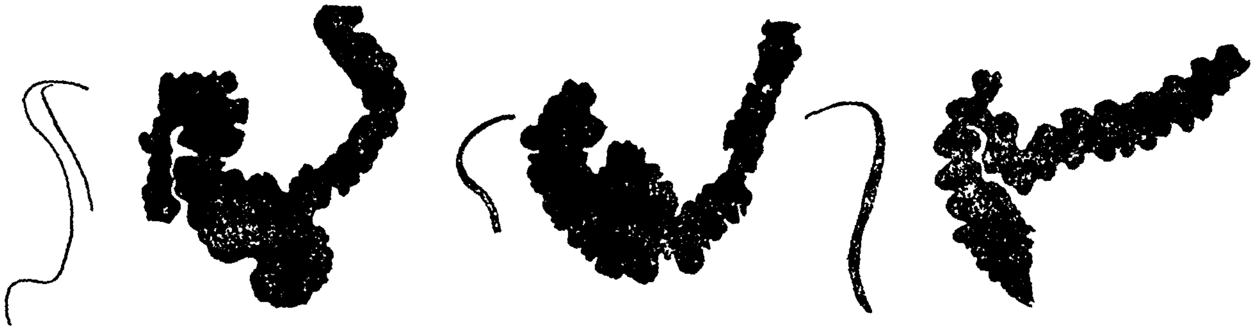

Figure 1. Figure 2. Figure 3.

Morphine hunger in the habitué: colon showing dilatation and obliteration of the haustra. When figure 3 was made, the blood plasma p_H was 7.46; the blood pressure, 160 systolic and 100 diastolic. After an injection of morphine the blood pressure fell to 135 systolic and 95 diastolic, and the intestine contracted (vagus effects).

In this research, a number of drugs, gland extracts and salts were studied; among these was morphine, which was studied in habitués, who, on account of the constant dosage required, lend themselves readily to drug study. It was found that morphine hunger was a state of increased sympathetic tonus, or sympathetic preponderance with corresponding decrease in the smooth muscle reaction. The method was the twenty-hour roentgen-ray study of the vegetative innervation of the colon and the immediate fluoroscopic observation of the barium meal in the stomach in the absence of other drugs and purgatives. By means of the haustral arrangement and postural tone of the stomach and large intestine, it was possible to determine the effect of morphine and its withdrawal on the vegetative nerve balance.

This is a method that lends itself readily to the study of drugs, endocrines and salts. The vagus division causes contraction of the haustra and diminished amplitude of the smooth muscle of the gastro-intestinal tract, and the sympathetic division causes increase in the amplitude and enlargement of the haustra. This is well seen in a study of the effects of atropine and physostigmine (eserine) on the intestinal smooth muscle.[2] Atropine, as is well known, is a sympathetic stimulant (or paralyzes the vagus producing sympathetic preponderance), and roentgenograms before and after injection of atropine showed that a dilatation of the large intestine with obliteration of the haustra was produced by atropine. Physostigmine, on the contrary, produces vagus preponderance and it was found by means of roentgenograms before and after injections of physostigmine that contraction of the haustra and diminution of the caliber of the large intestine was produced by it. It was obvious, therefore, that the alterations in the haustral arrangement and postural tone of the smooth muscle of the intestine (which we call the smooth muscle reaction) were nerve (and not local) effects, and that the rhythm, rate and amplitude of the gastro-intestinal tract, as viewed by the roentgen rays, could be taken as an index or criterion of the vagus-sympathetic balance of the vegetative nervous system.

In the habitué, morphine hunger was marked by dilatation and haustral relaxation of the colon and dilatation of the pupil—a decreased smooth muscle reaction (figs. 1, 2 and 3).[3]

Morphine increases the vagus preponderance of the vegetative nervous system as we have found magnesium and calcium salts to do. It is not surprising, therefore, that Gwathmey[4] has found that there is a synergism between morphine and magnesium sulphate. Both of these substances are in the class of anesthetics that decrease permeability of the cell, as we believe most, if not all, of the vagus stimulants do.

The necessity of the morphine habitué may, therefore, be spoken of as an alteration of the vegetative nerve balance with sympathetic preponderance which morphine relieves by producing vagus stimulation. The condition is dependent on chemical changes of a colloid character in the bodily equilibrium, and morphine hunger is evidence of a deep physiologic need. The hope of the treatment of the habitué must be, therefore, in the correction of this physiologic or bodily unbalance by means of such substances as will produce the vagus preponderance or correction of the sympathetic preponderance and not produce the anesthetic or pain relieving effects of morphine.

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[1] Ludlum, S. D., and McDonald, Ellice: M. J. & Record **121:** 589 (May 20) 1925.

[2] Ludlum, S. D., and McDonald, Ellice: The Large Intestine and the Effects of Atropin and Eserin, M. J. & Record, Feb. 17, 1925.

[3] The illustrations were made from tracings of roentgen-ray films on the viewing box, and so are correct in scale and detail.

[4] Gwathmey, J. T.: Synergism of Magnesium Sulphate and Morphin, and Magnesium Sulphate and Ether, J. A. M. A. **85:** 1482 (Nov. 7) 1925.

Chronic Appendicitis.—I have seen consultants make pressure over the appendix at McBurney's point and decide that the patients did not have a chronic appendicitis because there was no tenderness on pressure. Tenderness at McBurney's point belongs to acute appendicitis.—Robert T. Morris.

EFFECTS OF SUBTOTAL GASTRECTOMY ON GASTRIC SECRETION

EXPERIMENTAL STUDIES BY AID OF A PAWLOW POUCH IN DOGS *

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The surgical treatment of gastric and duodenal ulcers is still an unsettled question. Those advocating the less radical operations, such as local ulcer resection, gastro-enterostomy and pyloroplasty, seem to have permanent results as satisfactory as those which follow more extensive operative procedures, and a decreased mortality to substantiate their claims. The more extensive gastric resections do not appear uniformly to prevent the formation of recurrent ulcers. They may be followed by the reappearance of previous symptom complexes, and they may lead to the establishment of an entirely new clinical picture, due to gastro-intestinal changes. The experimental work reported here was therefore instituted in order to study the changes which occur in the portion of the stomach which remains after subtotal gastrectomy, and to determine the possible mechanism involved. The Pawlow pouch method was considered the most suitable, as the pouch was taken from that part of the stomach which was to be left after gastric resection, the secretion of the pouch being comparable to that of the remaining portion.

REVIEW OF LITERATURE

This review of the literature does not include all phases of gastric surgery, but merely those articles which have a direct bearing on the effects of this surgery on gastric secretion. Most of the reports are based on clinical observations rather than animal experimentation.

Experimental studies carried on by Enderlen and Freudenberg,[1] in which gastric fistulas were used in dogs subjected to various gastric operations, showed that the resultant peptic and tryptic activity in the modified gastric secretion was dependent on the degree of acidity or neutralization. They further showed that tryptic activity was more marked after a gastro-enterostomy with a pyloric exclusion than without the latter. Dagaew,[2] in 1913, employed gastric and intestinal fistulas in dogs after different stomach operations. He found the digestive processes lengthened after the second Billroth more than after the first Billroth operation, and finally observed that in several completely gastrectomized dogs the weight and activity were retained. Heilmann[3] noted a normal digestion of the proteins but a lack of complete utilization of the fats, under similar conditions.

Considerable material has been accumulated on the effects of gastro-enterostomy on gastric secretion. Haberer[4] noted three main advantages of this type of operation, in that the stomach emptied somewhat more rapidly, neutralization was induced and pylorospasm relieved. White,[5] in observing a series of cases at the Mayo Clinic over a period of eighteen days, found that 50 per cent showed a reduction of acidity, which was most marked on the sixth day, and a permanent reduction occurred in 80 per cent of the cases. Bonar[6] demonstrated a variation in the subsequent gastric chemical condition dependent on whether the ulcer was in the duodenum or the pyloric zone or was actually gastric. The gastric ulcers were accompanied by the most marked reduction, while the pyloric zone and the duodenal ulcers showed a slight change in the acidity. Guy[7] confirmed these findings, but had somewhat more marked reduction for the pyloric and duodenal ulcers. Eusterman,[8] in grouping a very large number of cases from the Mayo Clinic, found a reduction in acidity in the majority of cases. Woolsey[9] had a reduction below normal in 63 per cent of cases and normal figures in 27 per cent. These findings have been corroborated by many surgeons. Wilensky and Crohn[10] found, in an analysis of thirty-seven cases, that gastro-enterostomy caused a delayed motility of the stomach and in the majority of cases left this organ in an impaired condition. Lewisohn[11] did not find any change in gastric acidity after gastro-enterostomy.

The rôle of the pyloric sphincter in preoperative and postoperative clinical syndromes is still debatable. Friedmann,[12] in a series of 115 cases, had his best results with the first Billroth operation and attributed it to the removal of the pylorus and an included nerve center. Haberer[13] considered the first Billroth operation as the best from an anatomic and functional standpoint. He further stated that the pyloric sphincter was a causative factor in many recurrent complications. Finsterer[14] has seen recurrent ulcers after the resection of the pyloric sphincter, and concluded that removal of a sufficient part of the stomach was the most important element.

Crohn,[15] in studying a number of cases in which the antrum and part of the fundus including the incisura had been removed, found a resultant achlorhydria and sometimes an achylia. He concluded from these facts that the segment of the incisura contained a nerve center, and in the absence of this nervous mechanism the remaining part of the stomach failed to secrete acid, although the secreting cells were present. Lorenz and Schur[16] have noted that the removal of the antrum decreases the hydrochloric acid production and the possibility of recurrent ulcer formation. Schur and Kornfeld[17] stated that resection of the antrum checked gastric secretion, but this was not due to simple reduction of secreting gastric mucosa.

Subtotal gastrectomy has been performed in a very large number of cases here and in other countries. However, there still remains a paucity of reports of careful scientific analyses of the subsequent gastric findings. Balfour[18] found marked neutralization of the gastric juice in his cases of this type. Schur and Plashkes[19] state that the removal of such a large part of the stomach is not a physiologic operation and the

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* From the Nelson Morris Fund and the Surgical Department of the Michael Reese Hospital and the Nelson Morris Institute for Medical Research.

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[12] Friedmann: Zentralbl. f. Chir. **49**: 1621, 1922.

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[18] Balfour, D. C.: Value of Cooperation Between Internist and Surgeon in Management of Complicated Gastric Conditions, J. A. M. A. **84**: *876 (March 21) 1925.*

[19] Schur and Plashkes: Mitt. a. d. Grenzgeb. d. Med. u. Chir. **28**: 795, 1914.

body cannot replace the bactericidal effect of the gastric juice when the acid and peptic activity have been suppressed. They also state that most individuals with achylia showed various intestinal disturbances. Grey,[20] in a series of operations in which the pancreatic duct was transplanted into the stomach, concluded that there was only a moderate decrease in the acid secreted, because of the introduction of this pancreatic fluid. Birgfeld[21] considered the lasting good results from subtotal gastrectomy to be due to the decreased acid production. Hunter[22] observed three cases of achlorhydria, and one which showed a large quantity of acid after this operation. Deaver[23] has stated that the rationale of partial gastrectomy rests on the removal of the pathologic condition and the acid bearing part of the stomach. Lewisohn,[24] in a series of twelve subtotal gastrectomies, found eight patients without any free acid and four with a markedly diminished acidity.

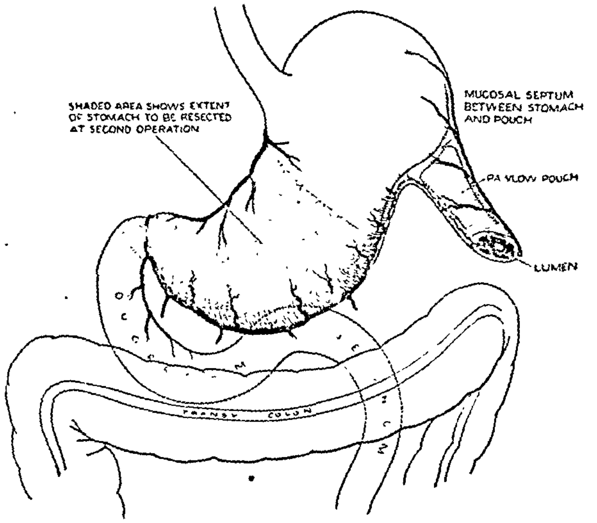
SHADED AREA SHOWS EXTENT OF STOMACH TO BE RESECTED AT SECOND OPERATION
MUCOSAL SEPTUM BETWEEN STOMACH AND POUCH
PAWLOW POUCH
LUMEN
TRANSV. COLON

Fig. 1.—First operative procedure, showing the formation of the Pawlow pouch and the extent of the stomach to be resected at the second operation.

EXPERIMENTS

The operative procedures and studies on gastric secretion were performed on three dogs. The operation was divided into two stages. The first included the formation of a Pawlow pouch and, after a period of analysis of the gastric secretion from both the stomach and the pouch, the second stage of the operation was carried out. In the latter stage, a subtotal gastrectomy was performed.

The Pawlow pouch (fig. 1) was made according to the usual routine originally described by Pawlow. Under ether anesthesia, a midline incision was made from the xiphoid process for a distance of 3 inches (7.6 cm.) toward the umbilicus. The stomach was delivered from the abdomen. In selecting a suitable portion of the stomach, we chose the region high up on the greater curvature, so as to have it a part of the stomach which was to be left after the gastrectomy of the second stage. A clamp was then placed, so that a sector about 4 inches (10 cm.) in length and about 2 inches (5 cm.) in width was included. This section was partially cut off from the main part of the stomach, leaving a pedicle about 1½ inches (3.7 cm.) wide at the base. Great care was exercised at this stage so as not to interfere with the nerve and blood supply of this pouch. The next step was to incise the mucosa across the pedicle and to strip it from the submucosa back toward the stomach and the pouch. This mucosa was then sutured in such a way as to make a complete mucosal septum between the stomach and the pouch and, hence, to prevent any leakage of the gastric juice between the two cavities. The muscularis and serosa of the Pawlow pouch were then sutured, forming a tubelike structure. The stomach was closed along the line of the incision. The Pawlow pouch was brought through a small muscle-splitting incision of the left rectus muscle and was then anchored to the skin surface. The original midline incision was closed, and the dog was put back in his cage. Fluids were administered by rectum for the first twenty-four hours, and then small quantities of milk and water were given by mouth. The dog was then allowed to recover for two weeks, after which careful studies were made of the gastric secretion from the main portion of the stomach and that from the Pawlow pouch. The methods of collecting and analyzing the gastric juice will be described later.

The second stage (fig. 2) of the operative procedures was instituted about four weeks after the original operation. Under ether anesthesia, a second midline incision was made, exposing the stomach. The few adhesions present were separated, and the stomach delivered from the abdomen. The duodenojejunal flexure was secured, and a small silk stay suture was passed through the serosa and muscularis, about 5 inches (12.7 cm.) from this flexure. This was to serve as a means of identification of this portion of the intestine later in the operation. Careful hemostasis was then secured of the stomach, along both curvatures, over the entire antrum and portion of the fundus. The stomach was then cut through vertically between clamps at the fundal end, and the distal segment was drawn to the right, separating it from the underlying pancreas. This severed portion of the stomach was then resected completely by cutting it between clamps from the duodenum just distal to the pyloric vein. The open duodenum was then closed by a continuous suture, and this blind end inverted by a continuous Lembert suture. The next step included the anastomosis of the jejunum to the open end of the stomach, as a side to end anastomosis. The upper three-fourths inch of the open stomach was closed first, so as to furnish a satisfactory anchoring place for the upper end of the line of anastomosis. The jejunum was then brought into view by pulling on the silk stay suture previously inserted. Sufficient length of the jejunum was allowed, so as to prevent any tension in the proximal loop. The jejunum was approximated to the open end of the stomach in the antecolic manner. The usual intestinal anastomosis was performed between the stomach and the jejunum, without the use of clamps on the

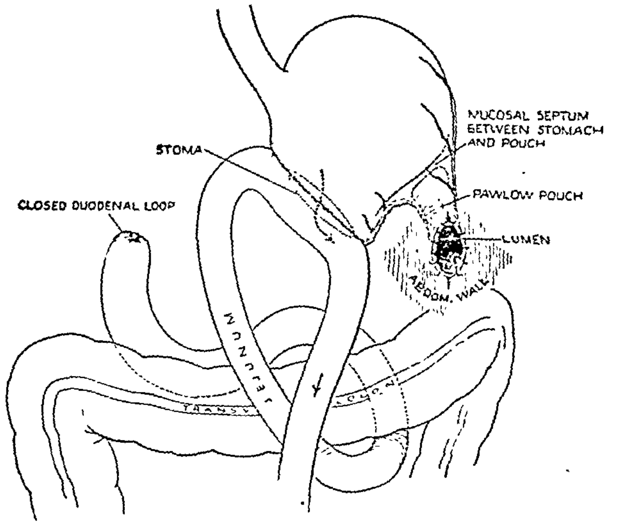

Fig. 2.—Second operative procedure, showing the subtotal gastrectomy and the fixation of the Pawlow pouch to the abdominal wall.

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[20] Grey, E. G.: J. Exper. Med. 26: 825 (Dec.) 1917.
[21] Birgfeld, E.: Arch. f. klin. Chir. 134: 51, 1925.
[22] Hunter, D.: Quart. J. Med. 16: 95 (Jan.) 1923.
[23] Deaver, J. B., and Reimann, S. P.: Subtotal Gastrectomy, J. A. M. A. 85: 1619 (Nov. 21) 1925.
[24] Lewisohn, R.: Ann. Surg. 78: 507 (Oct.) 1923.

EFFECTS OF SUBTOTAL GASTRECTOMY ON GASTRIC SECRETION

EXPERIMENTAL STUDIES BY AID OF A PAWLOW POUCH IN DOGS *

SIDNEY A. PORTIS, M.D.
AND
BERNARD PORTIS, M.D.
CHICAGO

The surgical treatment of gastric and duodenal ulcers is still an unsettled question. Those advocating the less radical operations, such as local ulcer resection, gastro-enterostomy and pyloroplasty, seem to have permanent results as satisfactory as those which follow more extensive operative procedures, and a decreased mortality to substantiate their claims. The more extensive gastric resections do not appear uniformly to prevent the formation of recurrent ulcers. They may be followed by the reappearance of previous symptom complexes, and they may lead to the establishment of an entirely new clinical picture, due to gastro-intestinal changes. The experimental work reported here was therefore instituted in order to study the changes which occur in the portion of the stomach which remains after subtotal gastrectomy, and to determine the possible mechanism involved. The Pawlow pouch method was considered the most suitable, as the pouch was taken from that part of the stomach which was to be left after gastric resection, the secretion of the pouch being comparable to that of the remaining portion.

REVIEW OF LITERATURE

This review of the literature does not include all phases of gastric surgery, but merely those articles which have a direct bearing on the effects of this surgery on gastric secretion. Most of the reports are based on clinical observations rather than animal experimentation.

Experimental studies carried on by Enderlen and Freudenberg,[1] in which gastric fistulas were used in dogs subjected to various gastric operations, showed that the resultant peptic and tryptic activity in the modified gastric secretion was dependent on the degree of acidity or neutralization. They further showed that tryptic activity was more marked after a gastro-enterostomy with a pyloric exclusion than without the latter. Dagaew,[2] in 1913, employed gastric and intestinal fistulas in dogs after different stomach operations. He found the digestive processes lengthened after the second Billroth more than after the first Billroth operation, and finally observed that in several completely gastrectomized dogs the weight and activity were retained. Heilmann[3] noted a normal digestion of the proteins but a lack of complete utilization of the fats, under similar conditions.

Considerable material has been accumulated on the effects of gastro-enterostomy on gastric secretion. Haberer[4] noted three main advantages of this type of operation, in that the stomach emptied somewhat more rapidly, neutralization was induced and pylorospasm relieved. White,[5] in observing a series of cases at the Mayo Clinic over a period of eighteen days, *found that* 50 per cent showed a reduction of acidity, which was most marked on the sixth day, and a permanent reduction occurred in 80 per cent of the cases. Bonar[6] demonstrated a variation in the subsequent gastric chemical condition dependent on whether the ulcer was in the duodenum or the pyloric zone or was actually gastric. The gastric ulcers were accompanied by the most marked reduction, while the pyloric zone and the duodenal ulcers showed a slight change in the acidity. Guy[7] confirmed these findings, but had somewhat more marked reduction for the pyloric and duodenal ulcers. Eusterman,[8] in grouping a very large number of cases from the Mayo Clinic, found a reduction in acidity in the majority of cases. Woolsey[9] had a reduction below normal in 63 per cent of cases and normal figures in 27 per cent. These findings have been corroborated by many surgeons. Wilensky and Crohn[10] found, in an analysis of thirty-seven cases, that gastro-enterostomy caused a delayed motility of the stomach and in the majority of cases left this organ in an impaired condition. Lewisohn[11] did not find any change in gastric acidity after gastro-enterostomy.

The rôle of the pyloric sphincter in preoperative and postoperative clinical syndromes is still debatable. Friedmann,[12] in a series of 115 cases, had his best results with the first Billroth operation and attributed it to the removal of the pylorus and an included nerve center. Haberer[13] considered the first Billroth operation as the best from an anatomic and functional standpoint. He further stated that the pyloric sphincter was a causative factor in many recurrent complications. Finsterer[14] has seen recurrent ulcers after the resection of the pyloric sphincter, and concluded that removal of a sufficient part of the stomach was the most important element.

Crohn,[15] in studying a number of cases in which the antrum and part of the fundus including the incisura had been removed, found a resultant achlorhydria and sometimes an achylia. He concluded from these facts that the segment of the incisura contained a nerve center, and in the absence of this nervous mechanism the remaining part of the stomach failed to secrete acid, although the secreting cells were present. Lorenz and Schur[16] have noted that the removal of the antrum decreases the hydrochloric acid production and the possibility of recurrent ulcer formation. Schur and Kornfeld[17] stated that resection of the antrum checked gastric secretion, but this was not due to simple reduction of secreting gastric mucosa.

Subtotal gastrectomy has been performed in a very large number of cases here and in other countries. However, there still remains a paucity of reports of careful scientific analyses of the subsequent gastric findings. Balfour[18] found marked neutralization of the gastric juice in his cases of this type. Schur and Plashkes[19] state that the removal of such a large part of the stomach is not a physiologic operation and the body cannot replace the bactericidal effect of the gastric juice when the acid and peptic activity have been suppressed. They also state that most individuals with achylia showed various intestinal disturbances. Grey,[20] in a series of operations in which the pancreatic duct was transplanted into the stomach, concluded that there was only a moderate decrease in the acid secreted, because of the introduction of this pancreatic fluid. Birgfeld [21] considered the lasting good results from subtotal gastrectomy to be due to the decreased acid production. Hunter [22] observed three cases of achlorhydria, and one which showed a large quantity of acid after this operation. Deaver [23] has stated that the rationale of partial gastrectomy rests on the removal of the pathologic condition and the acid bearing part of the stomach. Lewisohn,[24] in a series of twelve subtotal gastrectomies, found eight patients without any free acid and four with a markedly diminished acidity.

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* From the Nelson Morris Fund and the Surgical Department of the Michael Reese Hospital and the Nelson Morris Institute for Medical Research.

[1] Enderlen, E.; Freudenberg, E., and von Redwitz, E.: Klin. Wchnschr. **2**: 210 (Jan. 29) 1923.

[2] Dagaew: Mitt. a. d. Grenzgeb. d. Med. u. Chir. **26**: 176, 1913.

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[4] Von Haberer, H.: Deutsche Ztschr. f. Chir. **172**: 1, 1922.

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[18] Balfour, D. C.: Value of Cooperation Between Internist and Surgeon in Management of Complicated Gastric Conditions, J. A. M. A. **84**: 876 (March 21) 1925.

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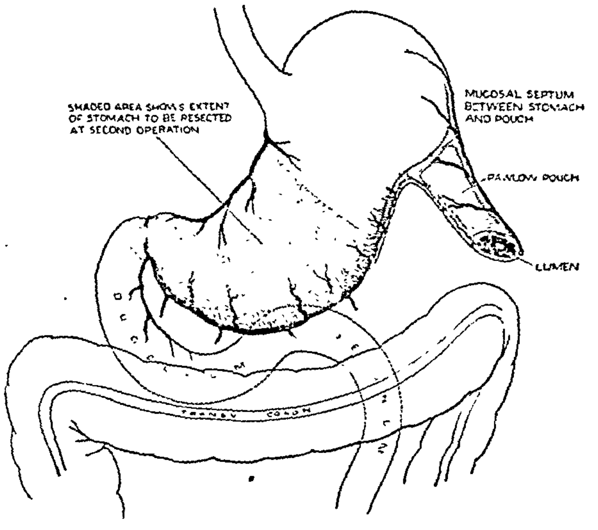
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Fig. 1.—First operative procedure, showing the formation of the Pawlow pouch and the extent of the stomach to be resected at the second operation.

EXPERIMENTS

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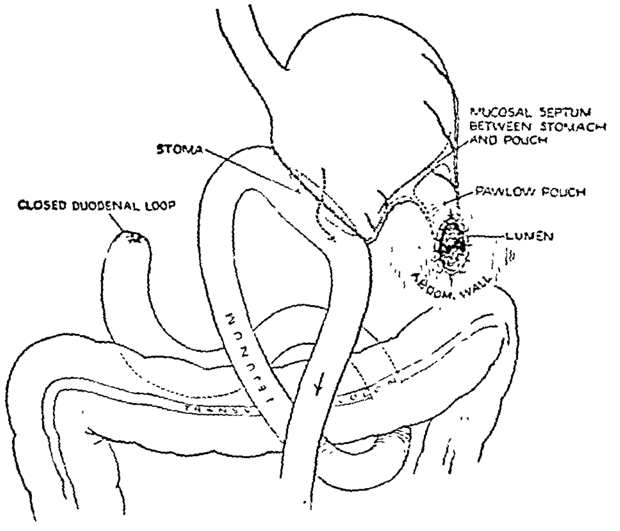

Fig. 2.—Second operative procedure, showing the subtotal gastrectomy and the fixation of the Pawlow pouch to the abdominal wall.

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24. Lewisohn, R.: Ann. Surg. **78**: 507 (Oct.) 1923.

jejunum itself. This method has been used by one of us (B. P.) in human surgery to prevent injury and devitalization of the jejunal mucosa. Care was taken to make the corners secure and to prevent any sharp angulations to the anastomosis. The midline incision was then sutured, and the animal was given water by rectum and supplied with external heat.

The postoperative course showed a uniformly mild to severe diarrhea for about four days, with loss of weight. The animals overcame this gradually, and soon regained their former weight and activity. The capacity of the stomach was naturally very much decreased, so that the dogs could take only a small portion of their former meals. This state of affairs persisted for about three weeks, when the animals seemed to have a larger tolerance for food.

The gastric secretion from the stomach was aspirated by means of a stomach tube and that from the Pawlow pouch was drained through a tube inserted into the lumen from the outside and attached to a small bottle. The meal given to the dogs consisted of 200 Gm. of raw meat, 50 Gm. of toast or bread, 250 cc. of milk, and a bone twice a week. The stomach and pouch were aspirated in the fasting condition and at hourly intervals for four hours.

The gastric secretion was measured after each aspiration and titrated for free and total acid with fortieth normal sodium hydroxide, in which form the readings are included in the accompanying table. The peptic activity was determined by means of the Mett tube method.

The table shows the results of the analyses of the gastric juice from dogs 1, 2 and 3. Dog 1 was operated on, June 26, 1925, when a Pawlow pouch was established. The second operation or subtotal gastrectomy was performed, July 29. Dog 2 had the first stage, June 29, and the second stage, August 6. Dog 3 was operated on, July 9 and August 13. The recorded results were taken about three weeks after each operation, when the animals had recovered from the operative procedures. The gastric analyses were repeated over a period of several months in each animal, with results uniformly similar to those given in the table.

The dogs were given a barium meal to test the motility of the stomachs under the roentgen ray. It was found that the stomachs emptied in from one and one half to two hours, or one-half the normal time.

COMMENT

The subtotal gastrectomy as carried out on the animals resulted in a wide stoma between the stomach and jejunum, reproducing the condition obtained in human beings by the same operative procedure. This final condition caused the gastric contents to enter directly into the jejunum and permitted the bile, pancreatic secretions and intestinal juices ready entrance into the stomach. The operations were done with no operative mortality. The dogs had a very severe diarrhea for several days and lost weight after the second operation, but rapidly returned to normal, and we were able to continue the study of each animal over a period of several months.

The table indicates that the three dogs reacted in a very similar manner. The secretions collected from the stomach and pouch after the first operation showed high free and combined acids. The lower free acidity of the stomach was attributable to the combination of the free acid and the protein in the meal.

The secretions from the stomach and pouch after the subtotal gastrectomy showed no free acid from the stomach itself, with a high combined acidity; the pouch, however, still continued to secrete its former acidity. The peptic activity was retained in both the stomach and the pouch.

The roentgenologic study of the gastric motility revealed that the stomachs emptied in about one-half the normal time.

The finding of an absence of free acid in the stomach after subtotal gastrectomy agrees with numerous clinical observations. The possible mechanism involved is, according to Crohn, that of the removal of a nerve center located at the incisura. Deaver considered the removal of the acid-bearing part of the stomach the most important factor. Contrary to Crohn, the Pawlow pouch continued to secrete free acid after the removal of the incisura and its so-called nerve center; hence, we cannot coincide with Crohn's view. Similarly, the contention of Deaver is not in accord with our findings and is not substantiated by anatomic and physiologic facts. Our results indicate that the essential factors are the neutralization of the gastric acidity by the bile, pancreatic secretions and the intestinal juices and the more rapid emptying of the stomach.

Results of Analyses of Gastric Juice

		Pouch			Stomach		
Hour	Amount, Cc.	Free Hydrochloric Acid	Total Acid	Pepsin, Mm.	Free Hydrochloric Acid	Total Acid	Pepsin, Mm
Dog 1 Before Gastrectomy							
1 (before food)	1.2	0 0	20 0	1 0	10 0	20 0	1 0
1 (after food)	2 8	30 0	70 0	1.25	5 0	65 0	1 0
2	4 6	77 5	110 0	1 0	20 0	100 0	0 8
3	4 2	87 5	132 5	0 5	20 0	115 0	0 3
4	2.0	52.5	80 0	0 75	30 0	74.0	0 6
After Gastrectomy							
1 (before food)	1 0	0 0	15 0	0 5	0 0	20 0	0 5
1 (after food)	1 1	60 0	87.5	1.5	0 0	75 0	0 8
2	1 2	70 0	115 0	1.1	0 0	97 5	1 0
3	2 5	65 0	85 0	0 7	0 0	87.5	1 0
4	1.6	62.5	82.5	0 9	0 0	75 0	0 7
Dog 2 Before Gastrectomy							
1 (before food)	1.0	10 0	50 0	1 1	10 0	45 0	1 0
1 (after food)	3 2	85 0	112 5	1.5	20 0	105 0	2 0
2	3 3	107 0	132 5	1 0	35 0	122 5	1 5
3	1 8	67.5	92 5	0 7	27 5	87 0	0 8
4	2 8	60 0	105 0	0 5	30 0	110 0	0 6
After Gastrectomy							
1 (before food)	2 5	30 0	70 0	2 0	0 0	65 0	0 4
1 (after food)	1 5	75 0	107 5	2 0	0 0	97 5	1 0
2	3 5	72 5	100 0	2 0	0 0	30 0	0 6
3	3 3	102 5	137 5	1 5	0 0	45 0	0 5
4	4 0	100 0	120 0	2 5	0 0	50 0	1 0
Dog 3 Before Gastrectomy							
1 (before food)	1 5	82 5	125 0	1 0	35 0	115 0	1 0
1 (after food)	2 0	70 0	115 0	1.7	10 0	100 0	1 8
2	2 8	82 5	120 0	1 1	20 0	115 0	1 5
3	3 5	90 0	120 0	1 0	37 0	125 0	1 2
4	3 0	70 5	105 0	1.7	22.0	110 0	0 9
After Gastrectomy							
1 (before food)	1 0	0 0	42 5	1 0	0 0	35 0	0 6
1 (after food)	4 0	95 0	112 5	2 0	0 0	42 5	0 8
2	4 5	110 0	137 5	2.5	0 0	108 0	1 2
3	4 5	110 0	132 5	3 0	0 0	80 0	1 0
4	5 0	105 0	130 0	1 5	0 0	80 0	1 0

The Pawlow pouch continued to secrete free acid after the removal of the antrum and part of the fundus. Since this type of pouch is *considered to act as a mirror* of that part of the stomach from which it is taken, it seems plausible that the stomach left after the subtotal gastrectomy probably secreted free acid, and the absence of such free acidity in the gastric contents was due to the neutralization by the bile, the pancreatic secretions and the intestinal juices.

With these facts in mind, one must consider whether a subtotal gastrectomy is a justifiable procedure as a routine measure for all gastric and duodenal ulcers. It seems probable that gastro-enterostomy performed under the improved technic with more accurate postoperative ulcer treatment will continue to be the operation of choice by the majority of surgeons. A further fact which has not yet received sufficient attention is that, by producing an artificial achylia, we are depriving the system of the important bactericidal action of the gastric juice. Studies of the intestinal flora before and after the various gastric operations are under way to determine the relative importance of this factor. Several modifications of our operative procedures are also in progress to verify the assertion that neutralization is the most important factor following gastrectomy.

CONCLUSIONS

The gastric secretion in dogs after a subtotal gastrectomy shows an absence of free acid but a high combined acidity, whereas the secretion from a Pawlow pouch, representing a similar part of the stomach, continues to secrete free acid after resection.

Our results indicate that the factor of neutralization plays the most important rôle in explaining the absence of free acid observed experimentally and clinically in the gastric secretion after subtotal gastrectomy.

The artificial achylia produced may establish an entirely new and possibly harmful bacterial flora of the gastro-intestinal tract, with consequent gastro-intestinal abnormality.

Clinical Notes, Suggestions, and New Instruments

TULAREMIA: REPORT OF FIVE CASES

JOHN L. LAVAN, M.D., KANSAS CITY, MO.
City Epidemiologist

In connection with my work as city epidemiologist, the five cases of tularemia here reported were encountered in Kansas City during the month of December. According to Francis, these are the first authentic cases of tularemia ever to be reported in Missouri. The infection came from two places, one from rabbits killed near Peculiar, Mo., and the other from rabbits shot at Fontana, Kan., a small place near Kansas City, Mo. All five cases presented a typical history and proved very resistant to ordinary methods of treatment. Tularemia was thought of as soon as it came to my attention, and with the assistance of Dr. Glover, who is attached to the food and dairy division of the health department, the cases were rounded up and worked out. Diagnosis was confirmed by agglutination tests of blood sent to Washington for that purpose.

REPORT OF CASES

CASE 1.—J. E. J., a man, aged 39, cleaned rabbits, December 13, and in handling them punctured his thumb with a bone splinter. He also had a hangnail on his index finger. December 17, he was troubled with nausea, and the temperature ranged from 100 to 101 F. subsequently. The finger and thumb of his right hand became very sore and tender. He noticed soreness and stiffness of the right arm and axilla. Fever persisted, with a rise in the afternoon and a drop in the morning. I saw the patient, December 29, and at that time he complained of prostration and weakness. On the thumb and forefinger of the right hand was a small ulcer, with raised edges and with a punched out appearance. Pus was draining from both ulcers. They were intensely painful and apparently were responding to treatment very slowly. There was some enlargement of the axillary glands, with considerable tenderness. A sample of blood was taken, December 31, and sent to Washington for the agglutination test. It was reported positive in a dilution of 1:80. Pus was taken from the ulcers and injected into the abdomen of a guinea-pig. This pig developed a high temperature the next day and died on the third day. The abdomen of another pig was scarified and some of the pus rubbed into this wound. This animal died on the fifth day. Necropsy disclosed enlarged livers and spleens, with necrotic areas scattered over both organs as described by Francis.[1] Jan. 31, 1926, the patient still complained of great weakness and lack of strength. His fingers had just about healed, although they were tender and sensitive. He complained of burning sensations in them at times. He was given four doses of neo-arsphenamine intravenously by his physician and said that he felt distinctly improved after this treatment. He also believed that the ulcers were aided in healing and became less painful. At present he still has difficulty in writing for any length of time because of pain in his fingers.

CASE 2.—Mrs. J. E. J., aged 39, handled rabbits, December 16. On the 18th, her hand was sore. She had had an abrasion on the middle finger of her right hand, and at the site of this abrasion was a small inflamed papule. She developed a temperature of 101 F. I saw her, December 29, and at this time there were two ulcers sharply punched out, on the middle finger of her right hand. These ulcers had raised edges and were draining pus. They were very painful and acutely inflammatory. There was slight axillary involvement accompanied by considerable stiffness of the upper arm and shoulder muscles. Blood taken, January 4, was reported positive in a dilution of 1:80. Prostration was marked and the temperature showed a rise in the evenings with a remission in the mornings.

January 31, the patient was still very weak, but the finger had healed. There was distinct scarring persisting. The patient is improving.

CASE 3.—Mrs. M. J. C., aged 71, November 25, cleaned some rabbits which had been shot near Fontana, Kan. On the 28th she noticed that the thumb on her left hand was becoming sore. That night she was taken with chills and high fever. The next day the thumb was worse, with the fever slightly higher. The thumb became intensely painful, and the glands in the epitrochlea and axillary region were involved. Pus drained from openings in the thumb. It was incised on the 30th, and apparently the condition became worse instead of improved. The fever and prostration persisted for a little more than three weeks.

This patient was seen by me, January 4, and was in a very weakened condition. She was sitting up at intervals, but tired quickly. The left thumb showed two severe scars about 1 inch (25 mm.) in diameter near the end of the thumb and another healing scar at the base. The thumb was very tender and sensitive and was kept covered with dressings. She said she was improving, although the intense weakness was her chief complaint. Blood taken, January 4, was reported positive in a dilution of 1:1,280.

January 31, two months after the onset, the patient was still very weak and her thumb was not entirely healed. She still had fever about one night a week, but showed improvement.

CASE 4.—Mrs. D. T., aged 65, December 14, handled rabbits which were shot near Peculiar, Mo., along with the rabbits that were cleaned by patients 1 and 2. In cleaning them she stuck a bone in the index finger of her left hand. December 16, she was taken ill, with a temperature of 103.3 F. and aching pains all over, particularly in the abdomen. This persisted for some time, with the temperature always lower in the morning and higher at night. Her finger became very sore, and she applied iodine with no improvement. Two days after she was taken ill the abscess was incised and the pus drained. At this time there was involvement of the axillary glands, with enlargement and tenderness. A blood count at this time showed 13,000 leukocytes. The fever persisted for two weeks, with the last occurrence, January 2. The patient complained of intense weakness throughout and remained in bed almost constantly.

CASE 5.—E. C. W., a man living at Merriam, Kan., cleaned rabbits that were shot near Fontana at the same time as those of patient 3. A clear history was not obtainable as the patient had left for California before he could be assured of the diagnosis. However, a sample of his blood, taken, January 5, was reported positive in a dilution of 1:1,280. From the attending physician I found that he had suffered a typical course of the disease with high fever and prostration accompanied by two lesions on his hand, which proved very resistant to ordinary methods of treatment.

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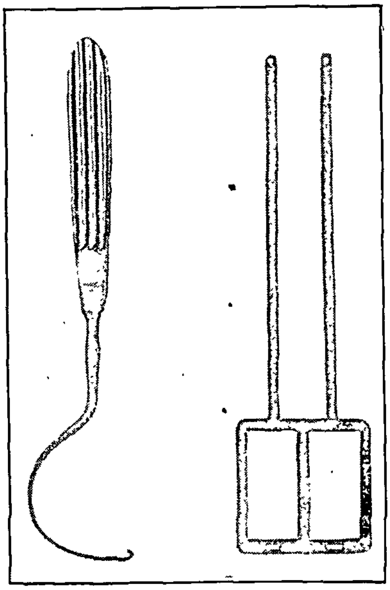
[1] Francis, Edward: Tularemia, J. A. M. A. **84**: 1243 (April 25) 1925.

BONE BAND AND BAND INTRODUCER

Franklin E. Hagie, M.D., Richmond, Ind.

I have been using a bone band designed as shown in the accompanying illustration to take care of certain types of fractures. It is a two tongue band with the two cross parts or ends of twice the thickness of the rest of the material used. The band is made of german silver. The Parham clamp can be used in applying the band to the bone, as the tongues are the same size as the Parham band. The type of a fracture caused by direct violence where a triangular piece of bone has been broken off from the line of fracture is well taken care of by the band. The fractured area is cradled by the band, forcing all the fragments into close apposition and giving great rigidity to the fracture area. If a narrower band is wanted, the band is severed at the side of the center partition, giving a one tongue fenestrated band.

In applying any band to a bone, I use my introducer as shown. It will handle a Parham, Collins or my own band. The introducer is slipped around the bone, and the eye of the band is caught in the hook of the introducer. The withdrawal of the introducer leaves the band around the bone ready to be tightened. The introducer greatly facilitates the introduction of a band and with the least amount of trauma.



Bone band and band introducer.

Second National Bank Building.

CONTROLLING THE "ODOR" AND "TASTE" OF ARSPHENAMINE

John H. Stokes, M.D., Philadelphia

The complaint of a peculiar odor and taste, made by many patients during an intravenous injection of arsphenamine, and especially marked in the case of those receiving neoarsphenamine, is familiar to users of these drugs. The sensation, whether due to ether in the solution, to a parosmia produced by the action of the preparation on the olfactory end-organs by way of the blood stream, or to an idiosyncrasy, is most often described as an odor of "ether," or at times of "garlic." Not a few patients find it quite unpleasant; others are neuseated outright by it, finding it a strong objection to treatment, and a warning of, or precipitator of, gastro-intestinal reaction.

One of my patients, who had repeatedly suffered from this annoyance in marked degree, conceived the idea of allowing a strong wintergreen or clove wafer to dissolve on the tongue during the injection of the drug. He experienced such complete relief that we have adopted the method as routine practice. A number of patients have now pronounced it a decided help.

Whether the effect is purely that of the volatile essence or in part the result of providing something to divert the attention of nervous patients during an anxious moment, I am not prepared to say. There are no unfavorable by-effects, and complaints of squeamishness or nausea during treatment have practically disappeared.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.

Associate Clinical Professor of Medicine, Rush Medical College

CHICAGO

(Continued from page 751)

PERORAL ADMINISTRATION OF SOLIDS

Solid dosage forms are becoming more and more popular because of their portability, concentration, accuracy of dosage, convenience of administration and ease with which objectionable taste and odors may be disguised. It is a good rule not to prescribe medicines in liquid form when they can just as well be prescribed in solid form excepting, of course, for children and those who cannot swallow pills. Pills or capsules should probably not be prescribed for patients with gastric or duodenal ulcer.

Solid preparations are of especial importance for the administration of water-insoluble or slightly soluble drugs. For these, liquid mixtures are objectionable because they are unsightly and, by reason of sedimentation, inaccurate in dosage.

Through choice of the proper kind of preparation, it is possible to make the medicament expend most of its action on certain parts of the digestive tract. Lozenges, in being dissolved in the mouth, furnish a prolonged contact with diseased surfaces in the mouth and throat. Powders, in their various dosage forms, are especially adapted for medication of the stomach itself. For action on the intestine, pills with not very readily soluble coatings are eligible, while it is possible to act on the lower part of the intestinal tract, especially the colon, by coating the pills with certain substances, such as gelatin hardened by formaldehyde or covered with keratin, which are relatively insoluble in the secretions of the upper part of the digestive tract, but soluble in the lower portions. For systemic action, powders, passing more quickly in solution than any other form of solid medication, are more suitable when prompt action is desired; pills, when slower and more lasting effect is aimed at.

While incompatibility by precipitation does not have to be considered in prescribing solid preparations, liquefaction and explosive compounds must be guarded against.

CAPSULES

The word capsule is the diminutive of the Latin word *capsa,* a chest, meaning little box. According to their solubility, we may recognize three kinds: gelatin capsules, starch capsules and enteric capsules.

Gelatin capsules, invented by Mothes, a French pharmacist, are shells made of gelatin. There are two varieties, the hard and the soft; the latter, kept soft by glycerin, are also known as elastic capsules.

Gelatin capsules constitute a very important dosage form for powders, masses, and even liquids. Oily liquids may be filled into capsules by the pharmacist on prescription. Aqueous or hydro-alcoholic liquids, on the other hand, would soon disintegrate the capsule. Such liquids may, however, be taken in capsule form if the patient fills the capsule just before taking the dose. When the patient is to fill the capsule at home, it is well to provide him with a medicine dropper.

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* This is the twelfth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

The rule to encapsulate everything possible requires the understanding of the following limitations of the capsule:

As to size of dose: 0.5 Gm. for hard capsules, 2.5 Gm. for soft capsules.

Liquefying substances or mixtures, as after liquefying, they would soften and finally destroy the capsule. Hence deliquescent bodies or substances which, on being mixed, become pasty or fluid should not be prescribed in capsule form. Practical details of this will be noted later (under powders).

Very irritating substances: These should not be administered in capsule form, unless they are diluted sufficiently to lessen their irritant action; for the capsule may happen to open somewhere near the gastric mucosa—even if taken after meals—and injure the tissue, causing gastric discomfort and even disease. It is better to prescribe highly soluble salts, such as bromides, iodides and chloral, in fluid administrations, as all of them are irritating. In case encapsulation is especially desired for irritant bodies because of convenience in transportation, as when the medicine is prescribed for a traveling man, advantage may be taken of a suggestion by N. S. Davis[32] to incorporate the substance in a wax mass formed of beeswax, 1 part, and castor oil, 3 parts. The ingredients are mixed by melting and may be kept on hand to be used as excipients. In this manner, for instance, 0.5 Gm. of potassium iodide, possibly with red mercuric iodide (0.002 Gm.) may be given. Even iodine (from 0.05 to 0.10 Gm.) incorporated with 0.3 Gm. of wax mass is tolerated without discomfort. According to the definition, this is an encapsulated pill mass.

Powders in Capsules.—Hard gelatin capsules, commonly called merely capsules, are cylindric shells with rounded ends, having a well fitting but easily removable cover, and are carried by pharmacists in sizes ranging from 5 to 00. Size 5 will hold about 0.05 Gm. of quinine sulphate. Size 00 will hold 0.5 Gm. of quinine or a similar light substance, while it can hold 1.3 Gm. of as heavy a substance as bismuth subnitrate. Larger sizes of hard capsules are generally not used, as they could not be swallowed readily. In prescribing, the physician need not specify the size of capsule to be used; but he must not exceed the sizes available.

For the dispensing of powders, capsules are very useful, especially for sparingly soluble substances that may have a tendency to form insoluble masses with excipients. When it is desired to direct the druggist to dispense a powder in this form, the subscription had better be "Divide the powder into capsules," until a general agreement has been reached between physicians and pharmacists that powders prescribed in capsules are not to be made into a mass, unless this is specified. As an example of a medicament especially suitable for such administration might be mentioned quinine sulphate, of which each capsule is generally made to contain 0.30 Gm. To this might be added 0.03 Gm. of powdered capsicum, which by its irritant action is believed to increase the degree of absorption of the quinine. One or two of these are used every four hours.

As an example of substances especially suitable for encapsulation of the powder, the coal tar analgesics, usually miscalled antipyretics, might be mentioned. With the exception of antipyrine, these are not readily soluble in water. Even the best of these—amidopyrine (pyramidon)—now official, given in doses of 0.3 Gm., sometimes fails to produce the desired result, especially in colics and in case of pain sufficiently severe to interfere with sleep. In such instances, the addition of a hypnotic, even in subhypnotic doses, most especially phenobarbital (luminal), which has also been made official (average dose, 0.03 Gm.) will usually produce the desired result. In case of spasm of the involuntary musculature—colic or asthma—extract of hyoscyamus (average dose, 0.05 Gm.) may be added to amidopyrine as an antispasmodic or to the mixture of amidopyrine and phenobarbital. The combination of these three is a useful nonhypnotic analgesic combination, acting no doubt somehow synergistically, as the same doses of any one of these alone does not produce as marked a relief of pain. Should this combination fail, as it sometimes does in malignancy and in violent colics, we still may not have to resort to morphine, the supreme analgesic, with all its well known disadvantages, by making use of the clinical fact that codeine phosphate (average dose, 0.03 Gm.) somehow potentizes amidopyrine when added to it, instead of the phenobarbital or, in very trying cases, in addition to the latter. There are certain general principles on combining that should guide us in the elaboration of such a complex prescription as the foregoing, and these might be taken up at this point.

POLYPHARMACY

The agitation against polypharmacy—the prescribing of too many drugs in one mixture—does not seem to have reached as yet that portion of the medical profession which still relies for its therapeutic information on the publications and price lists of manufacturers of pharmacals. The latter place on the market and push complex "specialties," on the well understood business principle that the more complex the mixture the less able is the prescription pharmacist to compete with the manufacturer. It does not pay to advertise and push simples that are generally available. Thus the artful business man covers the old well known and really valuable active ingredient or agents with a polypharmaceutic crazy-quilt that makes the uncritical physician with whom results count—and results they get—their slave for the rest of his professional life. The National Formulary is full of such mixtures which were admitted because their use was believed to require such recognition. This portion of the National Formulary reflects like a mirror a faithful, and alas grotesque, picture of the medical profession as the pharmacist sees it. It is to be feared that the quasiofficial standing given by including these mixtures in the National Formulary merely completes the vicious circle of polypharmacy deplored alike by all enlightened pharmacists and physicians.

On the other hand, the reaction against polypharmacy has perhaps gone too far with some of our leading clinicians who—professional diagnosticians rather than therapists and practicing in hospitals rather than in homes—do not have to worry quite as much about relieving their patients "quickly, safely and pleasantly" as most of their humbler confrères. The serious result of the neglect of an earnest study of therapy by so many of our eminent clinicians is that they are the teachers in our medical schools and are responsible for the lack of therapeutic resourcefulness of the young graduate who, as he must do something for his patients somehow, so often takes the easy way pointed out for him by the pharmacal advertisements. Thus the deplorable state of the polypharmacy prevailing today follows, like a comet's tail, therapeutic nihilism, which is its head.

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[32] Davis, N. S.: The Administration of Certain Deliquescent and Liquid Drugs in Capsules, J. A. M. A. 47: 1160 (Oct. 14) 1916.

The proper attitude toward the combining of drugs lies somewhere between the two extremes. It is true that, unless we study the effects of drugs uncombined, we can never become masters in their use; but, having done so, we can at times greatly improve effects by rational combinations. We may, for instance, obtain a maximum of desirable action with a minimum of undesirable side effects by combination for "crossed action," in which two agents having the same desirable effect on a certain organ can each be used in smaller dose by combining them, thus giving us less of the undesirable qualities of each, as when we combine morphine and chloral as hypnotics. We may combine for antagonism of undesirable side effects, as we do when giving a cathartic like aloe, with an agent that has a constipating tendency, as iron or opium. If the agents combined reinforce each other's desirable action and mutually antagonize each other's untoward effects, the combination will be still more efficient, as is probably the case with the morphine and atropine combination in the treatment of colics. Finally, we may combine for what might be called heterotopic synergism when, by acting on the various subdivisions of a functional system, as the nerve center, nerve endings and muscle fiber, we may obtain a greater total effect from smaller and less objectionable doses than if we used any one of the agents alone and uncombined. The analgesic capsules suggested above may serve as an example of heterotopic synergism.

Skill must be displayed not only in the proper choice of agents but also in the proper apportioning of the relative dosage. It is generally wise to combine agents in the proportion that their average doses bear to one another, unless, of course, we desire a marked preponderance of the action of one agent over that of another. The average dose of amidopyrine is ten times that of the average dose of phenobarbital; therefore, a rational proportion of the two agents would be as 10 to 1, unless the combination makes the patient too sleepy or dizzy, when the dose of the hypnotic must be lessened; or, if sleep and relief of pain are the results aimed at, the proportion of the hypnotic might be increased.[33] Should one, in the study of the combination under discussion, apply this general dosage principle to the extract of hyoscyamus and use 0.05 Gm., he would soon learn that some patients complain of dryness of the mouth following the use of the capsules. This can be suppressed by reducing the dose of the extract of hyoscyamus to 0.02 Gm., unless the special effects of this drug of the atropine series is desired. In colics or when the patient perspires excessively, the full proportion may be used with advantage, even though dryness of the mouth also ensues.

When prescribing symptom medicine, it is a good general principle to choose a rather small unit dose and permit frequent repetition, until the effect aimed at is attained, rather than risk excessive or unpleasant action. Thus, in the combination under discussion, we do well to cut the desired dose of each of the ingredients in half, advising the patient to repeat the dose in an hour until relief is obtained or until three doses are taken, and then to use the remedy every two to four hours as required. If experience shows that at least two capsules are always required by a certain patient, then he would better take the two capsules at once; and his next prescription should call for a capsule of twice the original dosage. For a big, powerful man, a larger original dose should, of course, be prescribed than for a small, frail woman.

From what has just been said, it will be clear that the prescribing of ready made combinations or of fixed formulas is the poorest kind of practice. The hackneyed comparison of such hand-me-down medicine to hand-me-down suits does not apply, because no fat man could or would wear a lean man's suit, or vice versa; but such misfits in medicine are altogether too common. Getting into the habit of prescribing fixed formulas, be they official or proprietary, is pernicious to the prescriber in that it unfits a certain portion of his mind, by atrophy from disuse, to originate combinations or to adjust a formula so as to fit the requirements of each case as exactly as possible. The patient has a right to expect this from us.

(To be continued)

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[33] A proprietary preparation sold under the name "allonal" contains a phenolbarbital-like body, 1 part, and amidopyrine, 2 parts, in fixed proportion. That this proportion is probably not optimal for many patients can be realized from what has just been said.

New and Nonofficial Remedies

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application. W. A. Puckner, Secretary.

HOFFMAN'S NON-NUTRITIVE NUT FLOUR.—A preparation prepared from Tagua palm nuts, composed chiefly of unassimilable carbohydrates (mannans). It contains fat, 0.63 per cent; protein, 4.13 per cent; moisture, fiber and ash, 14.8 per cent; modified celluloses, 80.44 per cent.

Actions and Uses.—Hoffman's non-nutritive nut flour is used as a means of filling out restricted diets. It is a non-nutritive food substance, used to give bulk to food, thus serving to satisfy hunger without furnishing nourishment. Being unassimilated, it adds roughage to the diet.

Dosage.—Hoffman's non-nutritive nut flour, after admixture with eggs, "India Gum" and baking powder, and seasoned, if desired, with salt, flavoring and saccharin, may be used in the preparation of imitation bread, griddle cakes, etc.

Manufactured by the Efficiency Products Co., Somerville, N. J. No U. S. patent or trademark.

Hoffman's non-nutritive nut flour is a white powder, without taste or odor.

Hoffman's non-nutritive nut flour contains approximately: moisture, 9.05 per cent; ash, 1.00 per cent; protein (nitrogen × 6.25), 4.13 per cent; fiber, 4.75 per cent; nitrogen-free extract: starch, none; soluble carbohydrate (as dextrose), 3.44 per cent; other nitrogen-free extract by difference, 77.00 per cent; fat (ether extract), 0.63 per cent. In this analysis "crude fiber" and "nitrogen-free extract" represent materials belonging to the carbohydrates.

CARBON TETRACHLORIDE (See New and Nonofficial Remedies, 1925, p. 84).

Carbon Tetrachloride-Mulford.—A brand of carbon tetrachloride, U. S. P.

H. K. Mulford Co., Philadelphia, distributor. No U. S. patent or trademark.

Capsules Carbon Tetrachloride-Mulford, 0.3 cc.
Capsules Carbon Tetrachloride-Mulford, 1 cc.
Capsules Carbon Tetrachloride-Mulford, 3 cc.

POLLEN ANTIGENS-LEDERLE (See New and Nonofficial Remedies, 1925, p. 287).

The following product has been accepted:

Ragweed Combined Pollen Antigen-Lederle.

Prepared by the method given in New and Nonofficial Remedies, 1925, p. 287.

REPORTS OF OFFICERS

NOTE.—At the last annual session of the Association, the House of Delegates suggested that all reports of officers, committees, etc., and resolutions to be brought before the House, if available, be published in advance of the session so as to permit careful consideration and discussion.— Ed.

REPORT OF SECRETARY

To the Members of the House of Delegates of the American Medical Association:

I have the honor to submit the following report for the year 1925-1926:

Membership

Because the Annual Session is held much earlier than usual, it is necessary to report the membership of the Association as of March 1, 1926. On that date the names of 91,792 members were on the official roll. On the corresponding date in 1925, the membership was 89,688. In December of each year, and in the early months of the succeeding year, many names are removed from membership records because of delinquencies in the payment of dues to the secretaries or treasurers of constituent state associations, only to be restored later on when these delinquencies have been discharged. Thus the work of those charged with the duty of keeping these records is greatly and unnecessarily added to, and thus the expense incurred by county societies, state associations and the American Medical Association is unnecessarily increased. The cost of removing and then restoring the name of a member who has carelessly failed to keep himself in good standing is not less than one dollar and is probably considerably more. When hundreds of members, through their failure to pay dues when due, make such procedure necessary, year after year, it is easy to see that their thoughtlessness is directly responsible for a very considerable expenditure that might easily be saved.

An accompanying table shows the number of members in each state, and presents other important facts relative to medical organizations throughout the country.

Fellowship

The names of 58,681 Fellows were enrolled on the roster, March 1, 1926. On the same date in 1925 there were 56,188 Fellows. The gradual increase in the number of Fellows, year by year, is encouraging, because it means the members of the Association are coming to take more interest in its affairs and more active participation in its work.

Constituent Associations

Most of the constituent associations have made definite progress during the year in strengthening themselves as organizations and in providing more helpful service for their members. Some have extended their activities so that the benefits of membership have been greatly enhanced. The state associations *as such* are, in most instances, stronger than ever before. A great deal has been done within the last few years toward perfecting their organizational machinery.

The councils are, in most of the states, functioning to fine advantage; standing and special committees are, in most instances, working more earnestly at their jobs; the financial position of most of the state organizations has been definitely improved; the elected officers, having been provided with better facilities for work, and having received more earnest cooperation from committees and members, have measured up splendidly to their opportunities and responsibilities. As a result of all this, the state associations, generally speaking, have gained greatly in prestige and influence, and have materially improved their service to their own members and to the public.

The Hawaii Territorial Medical Association has organized on the county unit basis.

Organization of Constituent Associations

State	Number Counties in State	Number Component Societies in State Assn.	Number Counties in State Not Organized		Number Physicians in State (9th Ed. Directory)	Number Members of State Associations		Number A. M. A. Fellows in State
			1925	1926		1925	1926	
Alabama	67	67	..	..	2,284	1,595	1,612	516
Arizona	14	11	3	3	378	222	222	175
Arkansas	75	66	10	10	2,212	1,249	1,180	487
California	58	40	16	16	8,363	3,436	4,203	3,260
Colorado	63	25	25	25	1,837	1,083	1,068	721
Connecticut	8	8	..	..	1,884	1,201	1,229	825
Delaware	3	3	.	..	256	155	148	91
Dist Columbia	.		..	..	1,813	537	549	422
Florida	63	28	33	32	1,452	673	700	449
Georgia	161	104	57	57	3,122	1,671	1,784	804
Idaho	44	11	17	17	416	263	239	167
Illinois	102	95	4	4	10,743	7,107	7,020	5,199
Indiana	92	84	6	6	4,251	2,716	2,671	1,652
Iowa	99	97		.	3,378	2,374	2,362	1,568
Kansas	105	62	42	42	2,364	1,594	1,556	931
Kentucky	120	109	10	10	3,041	1,778	1,850	789
Louisiana	64	38	21	21	1,991	1,255	1,248	687
Maine	16	15	1	1	1,037	753	785	397
Maryland	23	21	..	..	2,313	1,264	1,259	814
Massachusetts	14	18	.	..	6,187	4,128	4,248	2,824
Michigan	83	55	7	7	4,837	3,051	2,982	1,832
Minnesota	87	38	8	8	2,823	2,087	2,053	1,353
Mississippi	82	37	9	9	1,702	947	976	336
Missouri	115	100	7	8	5,806	3,335	3,270	2,059
Montana	55	15	39	39	525	259	269	182
Nebraska	93	54	34	34	1,869	1,220	1,227	774
Nevada	17	3	14	14	129	100	91	72
New Hampshire	10	10	..	..	601	504	489	274
New Jersey	21	21	..	.	3,567	2,118	2,240	1,687
New Mexico	31	13	15	14	365	263	260	148
New York	62	60	1	1	17,671	10,396	10,885	7,044
North Carolina	100	71	20	20	2,281	1,612	1,686	697
North Dakota	53	14	2	2	485	380	394	286
Ohio	88	85	3	3	8,113	5,206	5,240	3,082
Oklahoma	77	69	9	9	2,524	1,686	1,553	735
Oregon	36	17	2	2	1,176	482	551	369
Pennsylvania	67	63	4	4	11,140	7,474	7,502	4,921
Rhode Island	5	6		1	771	411	423	309
South Carolina	46	40	5	5	1,317	937	861	389
South Dakota	69	11	2	2	604	352	343	239
Tennessee	95	67	25	25	3,128	1,616	1,571	741
Texas	254	135	73	73	6,063	3,758	3,479	1,784
Utah	29	6	22	22	505	330	357	232
Vermont	14	10	3	3	537	365	353	202
Virginia	100	51	43	43	2,534	1,845	1,846	786
Washington	39	19	20	20	1,781	1,165	1,132	701
West Virginia	55	26	14	14	1,753	1,174	1,020	590
Wisconsin	71	52	2	1	2,826	1,846	2,054	1,368
Wyoming	23	7	13	13	255	135	149	98
Alaska		.	..	..	56	20	21	..
Hawaii	5	3	..	..	225	104	131	63
Porto Rico (districts)	7	7	..	..	321	153	166	45
Canal Zone		..	..	..	127	90	110	26
Philippine Islands (provinces)	56	2	..	..	905	151	174	50
Foreign			..	..	....	....	.....	150
Total	3,136	2,069	641	640	148,644	90,646	91,792	56,302
Commissioned Officers, Honorary and Affiliate Fellows								2,379
								58,681

Component County Societies

The county medical society is the fundamental unit in our scheme of organization. More than that, it is the essential factor in the record, whether of progress or otherwise, that may be made by medical organization as a whole. A constituent state association cannot permanently succeed, no matter how its own separate machinery may be developed, unless its component county societies are meeting their own responsibilities with reasonable efficiency. No more can the

American Medical Association fully succeed unless its basic units are efficient. There are those things that must be done, and done well, by the county society for itself and for organized medicine as a whole. In building up the state association or the American Medical Association, great care should be taken to see to it that nothing is done to weaken the county society, whether by taking over the work it should do for itself or by any other method.

As has been stated in reports heretofore submitted, there are, as is clearly shown by official reports from their own officers, too many county societies that are stagnant. In many instances persistent effort has been made to stimulate them into action without any measurable success. It might be worth while for the state associations to undertake a careful survey, each within its own jurisdiction, with a view to making a final effort toward bringing every chartered component unit as now constituted into useful activity, or, failing that, to effect organization anew by the combination of two or more counties into one society. This plan has already been tried to good advantage in some instances.

Turning to a brighter side of the general picture, it is extremely gratifying to report that many county societies in all sections of the country are doing more and better work than ever before. Among these are some with relatively small membership. Their programs of work, scientific and otherwise, are prepared with care and carried out with inspiring enthusiasm. Such societies confer real benefits on their members and exert a most helpful influence in their own several communities. They are the strength of medical organization in the United States.

Scientific Work

It is easily apparent to any who will examine the facts that the scientific work of constituent associations and of active component county societies is showing constant improvement —in both quantity and quality. More and more the scientific programs are being made really purposeful. This appears to be largely due to the fact that the compilation of these programs is made the duty of qualified committees, elected officers, or otherwise. The programs are planned far enough ahead to give contributors ample time for the preparation of well thought out papers and discussions.

There seems to be a growing tendency on the part of some county and district societies toward depending on "outside talent" exclusively for program material. It may be that this tendency, if permitted to develop, will destroy one of the important purposes of these societies, namely, to encourage study and promote the art of expression, by both the written and the spoken word, among their own members.

Annual Conference of Secretaries of Constituent State Associations

The regular annual conference of secretaries of constituent associations was held in Chicago in November, 1925. As in 1924, editors of all state association journals were invited to attend, and most of them were present. The papers and discussions of the conference have appeared in the *Bulletin*.

Successor to President-Elect

The By-Laws of the Association provide that in case of death, resignation or removal of the President, the Vice President shall officiate during the unexpired term. No provision is made for a successor to the President-Elect under similar circumstances, except that which is designed to continue the term of the President until his successor is elected and installed.

This is a matter of acute interest to another national society organized like ours. The question has arisen in that society by reason of the death of the president-elect and there is difference of opinion as to whether the vice president shall be installed as president or the president shall continue to serve for another year. The House of Delegates may wish to have the By-Laws amended so as to make specific provision, in which case it is recommended that the matter be referred to the proper reference committee with instructions to report as early as possible during this session.

Constitution and By-Laws for State Associations

The draft of a constitution and by-laws for state associations, prepared by a special committee of the House of Delegates, was referred by the House at its last session to the constituent associations. The secretaries of all state and territorial associations were duly notified of this action, and copies of the draft were sent them. Only one state association, Washington, has taken definite action, so far as the Secretary is advised. Most of the constituent associations have referred the matter to committees. These will probably report at annual sessions held this year. In the meantime, a number of county societies have amended, or are considering amendment of, their constitutions and by-laws.

The special committee of the House of Delegates was instructed to prepare a draft of a constitution and by-laws for county societies, also. As was reported to the House last year, the committee felt that, as the state association issues charters to its county societies and requires that there shall be no conflict between its own constitution and by-laws and that of a component society, it would be necessary to have action first from the state organizations. This attitude of the committee was approved by the House of Delegates. It is hoped that all state associations will take definite action with respect to this important matter this year. The committee can then continue its study with the benefit of approval or disapproval that may be recorded by the constituent associations, and can within a year or two prepare a draft of a constitution and by-laws for county societies designed to secure that uniformity which is apparently needed in our organizational laws.

Election of Delegates and Alternate Delegates

It is of great importance that delegates *and* alternate delegates shall be elected in accordance with the provisions of the constitutions and by-laws of the constituent associations and of the American Medical Association. It has happened, on occasions, that sections of the Scientific Assembly, and even state associations, have failed to elect alternate delegates. In at least one instance there was failure to elect a delegate.

It is specifically provided that none but those who have been Fellows for two years immediately preceding the session at which they are to serve are eligible for election as delegates or as alternates. Year after year, this requirement of the by-laws is ignored, and those ineligible are elected. It may happen, unless more care is exercised in the matter, that one or more constituent associations may be denied representation in the House of Delegates because of failure to observe the definite provisions of the law.

Proposed Amendments to Constitution

Two proposed amendments to the constitution, submitted at the House of Delegates last year, are for the consideration of the House at this session:

1. Offered by Dr. George F. Keiper, Indiana: Amend Article 10 of the Constitution by inserting the words "or Canada" after the words "United States," so that the last clause shall read: "A session may be held at any place in the United States or Canada."

2. Offered by Dr. E. L. Hunt, New York, chairman of the Reference Committee on Amendments to the Constitution and By-Laws at the Atlantic City session: Amend the Constitution so that lay secretaries of constituent state associations may have recognition and standing in the sessions of the American Medical Association.

Resolutions Printed in the Bulletin

Several resolutions to be presented at this session of the House of Delegates were sent to the secretary and published in the American Medical Association Bulletin for March. This was done in keeping with suggestions offered by the President and by the Speaker of the House at the last Annual Session.

Acknowledgment

The privilege of the opportunity to serve as Secretary of the Association and its House of Delegates has been greatly enhanced by helpful cooperation and kindly consideration that have been received from practically every member, Fellow and officer of the Association with whom the Secretary has had official contact.

Olin West,

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

It is not possible in any annual report to present in detail more than a part of the activities of the various councils, bureaus, committees, and departments of the Association whose work is covered in a report of the Board of Trustees.

During the year 1925, almost every separate division of the Association has been called on for increased service. The work of the Association has grown in scope and in amount. New and helpful contacts have been established in various fields. Favorable comment received and increase in circulation noted with nearly all of the publications of the Association seem to indicate that they have gained influence and prestige. As will be seen from the financial report which is appended, the year has been a prosperous one for the Association.

The Journal of the American Medical Association

In quantity and in character of material published, The Journal has maintained its leading position in medical journalism. The number of manuscripts received, accepted or rejected in 1925 was approximately the same as for each of the last three years. Especial attention has been given toward increasing the scope and accuracy of news material in The Journal by the assignment of special correspondents, utilizing for this purpose officers of constituent state associations and component county societies, and by establishing more intimate relationships with various medical organizations. Attention is called particularly to the elaboration of foreign correspondence; special articles, such as analyses of diphtheria and typhoid fever mortalities throughout the world; the technic of medication, medical education, physical therapy, and other topics. The department of the Bureau of Investigation in The Journal has been devoted to the publication of exposés of great importance to physicians and the public, informing them of attempts to impose on their credulity, of efforts to promote nostrums of unproved value, and of schemes of various kinds in the twilight zone of medical practice. As a result of one such publication, suit for libel has been instituted against the Association by a corporation promoting a so-called cure for cancer. Of especial interest also were articles published during the year on the "Defensive Diet League," and on the "American Association for Medico-Physical Research," representing attempts to give the medical profession the facts on organizations of national scope on the borderland of medicine.

There has been notable increase in correspondence, including requests for information and discussions of articles appearing in The Journal, an indication of the continuing interest of the medical profession in the type of material published.

Subscription Department

The total circulation of The Journal, Jan. 1, 1925, was 85,536. Jan. 1, 1926, the mailing list contained 86,582 names, and thus was established a new high mark in circulation. While exchanges, advertisers, and a very limited complimentary list are included in these figures, they do not include Fellows who are commissioned medical officers in government service, Honorary, Affiliate or Associate Fellows, and those whose Journals are being held temporarily, to the number of 4,722; nor do they include those who are receiving special journals published by the Association in lieu of The Journal of the American Medical Association. The Subscription and Membership departments, working hand in hand, have used the same methods that have been found efficacious in the past in maintaining circulation.

Through the use of form letters, through the efforts of agents, through the distribution of sample copies, and, to some extent, through the offer of premiums, the circulation of The Journal has been maintained and extended.

The total number of copies printed in 1925 was 4,493,437. The gross weekly average was 86,412.

The total number of Fellows on the mailing list, Jan. 1, 1926, was 53,705, an increase of 1,467 over 1925. The total number of subscribers other than Fellows, Jan. 1, 1926, was 32,113.

Table A, which follows, presents an approximate count of Fellows and subscribers on the mailing list of The Journal, Dec. 31, 1925, and shows gain or loss over the previous year in each state and territory.

It will be noted that the largest gain registered was in New York State, while the largest loss was in Georgia. There appears to have been a loss of about 5 per cent in the number of physicians in Georgia, which explains, perhaps, part of the loss in circulation in that state.

Table A.—*Approximate Count of Fellows and Subscribers on Mailing List, Dec. 31, 1925; Also Gain or Loss Over the Previous Year*

State	Fellows	Subscribers	Totals	Gain for Year	Loss for Year
Alabama	488	326	814	...	28
Arizona	159	84	243	...	16
Arkansas	458	201	659	...	41
California	3,136	1,889	5,025	14	..
Colorado	686	324	1,010	7	..
Connecticut	797	430	1,227	5	..
Delaware	88	51	139	10	..
District of Columbia	413	395	808	20	..
Florida	477	313	790	153	..
Georgia	774	365	1,139	...	138
Idaho	146	80	226	...	9
Illinois	4,996	2,523	7,519	...	45
Indiana	1,495	683	2,178	6	..
Iowa	1,459	556	2,015	86	..
Kansas	870	369	1,239	...	25
Kentucky	764	332	1,096	...	64
Louisiana	667	278	945	3	..
Maine	386	164	550	2	..
Maryland	801	466	1,267	...	2
Massachusetts	2,719	1,218	3,937	6	..
Michigan	1,827	1,161	2,988	151	..
Minnesota	1,259	679	1,938	...	1
Mississippi	311	193	504	...	6
Missouri	1,938	887	2,825	...	43
Montana	166	146	312	4	..
Nebraska	713	451	1,164	20	..
Nevada	71	19	90	...	..
New Hampshire	268	65	333	...	18
New Jersey	1,650	879	2,529	36	..
New Mexico	146	71	217	8	..
New York	6,759	4,060	10,819	677	..
North Carolina	640	327	967	...	31
North Dakota	245	97	342	...	3
Ohio	2,921	1,620	4,541	114	..
Oklahoma	659	280	939	...	52
Oregon	347	277	624	...	12
Pennsylvania	4,757	2,223	6,980	96	..
Rhode Island	299	124	423	...	26
South Carolina	357	230	587	...	75
South Dakota	216	145	361	...	13
Tennessee	678	407	1,085	...	17
Texas	1,632	758	2,390	...	87
Utah	208	95	303	...	17
Vermont	192	95	287	...	24
Virginia	758	567	1,325	145	..
Washington	651	361	1,012	...	24
West Virginia	562	311	873	...	18
Wisconsin	1,250	640	1,890	19	..
Wyoming	95	58	153	...	11
U. S. Army	...	193	193	1	..
U. S. Navy	...	275	275	...	..
Alaska	12	15	27	2	..
Canada	22	967	989	36	..
Cuba	3	51	54	4	..
Hawaii	51	59	110	10	..
Mexico	21	109	130	22	..
Panama	22	23	45	...	..
Philippine Islands	44	122	166	...	3
Porto Rico	42	47	89	26	..
Virgin Islands	..	3	3	3	..
Foreign	134	1,976	2,110	181	..

Table B gives the number of physicians (based on the Ninth Edition of the American Medical Directory) in the United States, the number receiving The Journal, and the approximate percentage in each state. Physicians in the United States Army, United States Navy, United States Public Health Service, etc., are not included.

Table B.—*Percentage of Physicians Receiving The Journal*

State	Number Receiving Journal	Physicians in State, 9th A. M. A. Directory	Approximate Percentage, 9th A. M. A. Directory
Alabama	814	2,284	36
Arizona	243	378	64
Arkansas	659	2,212	29
California	5,025	8,363	60
Colorado	1,010	1,837	55
Connecticut	1,227	1,884	65
Delaware	139	256	54
District of Columbia	808	1,813	45
Florida	790	1,452	54
Georgia	1,139	3,122	36
Idaho	226	416	54
Illinois	7,519	10,743	70
Indiana	2,178	4,251	51
Iowa	2,015	3,378	59
Kansas	1,239	2,364	52
Kentucky	1,096	3,041	36
Louisiana	945	1,991	47
Maine	550	1,037	53
Maryland	1,267	2,313	55
Massachusetts	3,937	6,187	64
Michigan	2,988	4,837	62
Minnesota	1,938	2,823	69
Mississippi	504	1,702	29
Missouri	2,825	5,806	49
Montana	312	525	59
Nebraska	1,164	1,869	62
Nevada	90	129	69
New Hampshire	333	601	55
New Jersey	2,529	3,567	71
New Mexico	217	365	59
New York	10,819	17,671	61
North Carolina	967	2,281	42
North Dakota	342	485	70
Ohio	4,541	8,113	56
Oklahoma	939	2,524	37
Oregon	624	1,176	53
Pennsylvania	6,980	11,140	62
Rhode Island	423	771	55
South Carolina	587	1,317	45
South Dakota	361	604	60
Tennessee	1,085	3,128	35
Texas	2,390	6,063	39
Utah	303	505	60
Vermont	287	537	53
Virginia	1,325	2,534	52
Washington	1,012	1,781	57
West Virginia	873	1,753	50
Wisconsin	1,890	2,826	67
Wyoming	153	255	60

Ten years ago, 41,938 Fellows and 22,921 other than Fellows received The Journal; five years ago, 46,669 Fellows, and 31,347 other than Fellows; while on Jan. 1, 1926, as has been shown above, the number of Fellows receiving The Journal had increased by approximately 12,000 over 1916, and by a little more than 7,000 over 1921. The number of subscribers other than Fellows. which was 22,921 in 1915 and 31,347 in 1921, has grown to 32,113, Jan. 1, 1926.

Advertising Department

Total receipts from the sale of advertising space in The Journal for the year 1925 were $679,864.21, which represents a gain over the receipts of the preceding year of about 11 per cent. This splendid income, which it is intended to use to the advantage of physicians in the United States, has been secured by reason of the high valuation which manufacturers and others who deal with the medical profession appear to have placed on The Journal as an advertising medium; but it also represents the result of most loyal and efficient service on the part of the personnel of the advertising department.

The advertising pages of The Journal have been carefully censored, as heretofore, by the Advertising Committee, composed of members of the administrative personnel at the headquarters offices. A large volume of advertising tendered The Journal has been refused because it has failed to meet the approval of this committee, or because its character was such as to make it unacceptable. It is gratifying to note that, though careful censorship of advertising material has been maintained, there has been less friction between the department and those who would use the advertising pages of The Journal than in former years. Effort has been made to acquaint prospective advertisers with the provisions of the rules of the Association governing the acceptance of advertising matter, and to explain the reasons therefor. The result appears to have been that in some instances advertisers have come to see the point of view of the medical profession with respect to these matters and have governed themselves accordingly.

The Spanish Edition

Comment and inquiries constantly received, both from subscribers and from nonsubscribers, indicate that the Spanish Edition of The Journal has maintained its position of leadership in the field which it occupies.

A decrease of 311 in the circulation of the Spanish Edition is to be noted for the year 1925. This is believed to be due to the radical change that was made with respect to the acceptance of subscription orders. In previous years, such orders were accepted on a "till forbidden" basis. Many subscriptions so accepted expired in December, 1924, since which time subscriptions have been accepted only for a definite period. The mailing list of the Spanish Edition, Jan. 1, 1926, carried 2,288 names.

The publication of the Spanish Edition of The Journal entailed a net loss of $11,740.10, which is $1,161.95 less than the loss incurred in 1924. Through the continued generosity of the Rockefeller Foundation, one half of this loss was charged to that organization and has been duly paid.

Some of the inquiries and requests that have come through the Spanish Edition of The Journal appear to indicate that this publication is recognized as having an established value as a dependable scientific medical journal. For instance, when a certain serum was widely advertised throughout Latin America for the treatment of syphilis, requests came from syphilologists in Argentina that the Spanish Edition publish the real facts about this serum in order that the greatest possible number of physicians might be reached with this information. Similarly, a district health officer in Colombia asked that The Journal comment on claims made for an advertised nostrum, stating that this seemed the best way to get the matter properly before the medical public in that country. From Salvador came a request that data on vaccination be published to disprove the statements made in antivaccination material coming from the United States, especially from the publishers of certain so-called "physical culture" periodicals. In other ways the Association, through its Spanish journal, or through the department in charge of its publication, has been able to offer some service to the medical profession in the countries in which this journal circulates.

Distribution of the Spanish Edition

Argentina	258
Bolivia	32
Brazil	175
British West Indies	1
Chile	51
Colombia	67
Costa Rica	17
Cuba	332
Dominican Republic	17
Ecuador	21
England	1
France	1
Germany	2
Guatemala	48
Honduras	12
Italy	2
Mexico	356
Nicaragua	15
Panama	10
Paraguay	4
Peru	77
Philippine Islands	128
Porto Rico	37
Portugal	21
Salvador	40
Spain	266
Sweden	1
Switzerland	1
United States	66
Uruguay	83
Venezuela	33

Three Spanish medical journals are published by Germans; one is published by Italians, while the French have begun to publish Spanish abstracts of original French articles.

The appended table shows the actual subscription circulation of the Spanish Edition in the various countries indicated.

Special Journals

The circulation of the special journals for 1925 was as follows: Archives of Internal Medicine, 3,383, a gain of 626 over the preceding year; American Journal of Diseases of Children, 3,744, a gain of 636; Archives of Neurology and Psychiatry, 1,289, a gain of 15; Archives of Dermatology and Syphilology, 1,431, a gain of 37; Archives of Surgery, 2,651, a gain of 32.

The Archives of Otolaryngology, with 2,121 subscribers, Jan. 15, 1925, at which time the first number was issued, closed the year with a subscription list of 2,997, new subscriptions having been entered during the year to the number of 876.

The Archives of Pathology and Laboratory Medicine made its appearance in January, 1926, with a subscription list containing 1,165 names. Dr. Ludvig Hektoen, Chicago, chairman; Dr. James Ewing, New York; Dr. William Ophüls, San Francisco; Dr. W. G. MacCallum, Baltimore; Dr. S. B. Wolbach, Boston, and Dr. Alfred Stengel of Philadelphia, are the members of the editorial board of this new journal, which has been very cordially received by those who are interested in the fields which it is intended to cover.

The circulation of the older members of the Association's group of special journals has been well maintained throughout the year, and, as will be noted from this report, there has been a gratifying increase in the subscription list of several. The first year of the Archives of Otolaryngology has far exceeded the expectations of the Board of Trustees and of its editorial board so far as circulation is concerned, and has received high commendation from many of its readers as well as complimentary notice at the hands of other journals.

The profit and loss on these special journals for 1925 is shown in the following table:

Internal Medicine	Gain,	$1,971.35
Diseases of Children	Gain,	2,388.64
Surgery	Gain,	2,969.67
Otolaryngology	Gain,	5,172.14
Neurology and Psychiatry	Loss,	2,520.30
Dermatology and Syphilology	Loss,	3,002.20

Quarterly Cumulative Index

The mailing list of the Quarterly Cumulative Index, Jan. 1, 1926, carried 1,271 names, fifty-nine more than on Jan. 1, 1925. The gain in circulation for this important publication for the year was considerably larger than that reported for any similar period in several years, and was secured notwithstanding the increase in the subscription price.

The net cost of the Quarterly Cumulative Index for 1925 was $12,678.53, which sum represents an increase of $1,289.95 over the net cost of this publication in 1924. The increased cost of publication is due to enlargement and improvement, whereby a considerably larger number of scientific periodicals have been indexed.

American Medical Directory

The Ninth Edition of the American Medical Directory was issued during the year at a cost of $138,106.03. For the first time in the history of this publication, the income has exceeded the cost directly chargeable to the Directory, so that a net gain amounting to $847.43 appears on the credit side of the ledger. This gain, while gratifying to note, is, in reality, more apparent than actual, and arises from the fact that it is not possible, without undue expense, to keep an accurate account which will minutely distribute all charges among the various departments that are indirectly concerned with the production of the Directory. The favorable financial showing of the Directory has been, to some extent, due to economies effected by changes in printing and make-up, but has been more largely due to the faithful and efficient service rendered by that part of the Association's official personnel directly charged with the duties of its compilation and publication.

The Ninth Edition of the American Medical Directory has perhaps received more favorable comment from subscribers than any preceding edition. This publication represents an important and valuable service rendered by the Association to physicians of the country and to those with whom they must have business dealings. It is invaluable and necessary to the Association itself and is used to great advantage by state and county societies, hospitals and other organizations and institutions with which physicians are concerned.

Hygeia

The circulation of Hygeia, reported to the House of Delegates as of Jan. 1, 1925, was slightly more than 30,000. On Jan. 1, 1926, the total circulation, including paid subscriptions and news-stand sales, was 40,547. The average number of copies printed monthly during 1925 was 41,673, practically all of which were distributed through paid subscriptions, news-stand sales, exchanges, and sample copies used in soliciting new subscriptions.

State	Physicians	Laity	Total
Alabama	148	167	315
Arizona	70	128	198
Arkansas	140	319	459
California	837	1,269	2,106
Colorado	220	182	402
Connecticut	270	220	490
Delaware	25	28	53
District of Columbia	142	103	245
Florida	135	150	285
Georgia	165	132	297
Idaho	73	78	151
Illinois	1,321	1,923	3,244
Indiana	590	811	1,401
Iowa	640	955	1,595
Kansas	328	472	800
Kentucky	184	137	321
Louisiana	136	329	465
Maine	114	126	240
Maryland	147	165	312
Massachusetts	602	595	1,197
Michigan	841	958	1,799
Minnesota	291	506	797
Mississippi	112	89	201
Missouri	421	683	1,104
Montana	65	124	189
Nebraska	255	360	615
Nevada	35	23	58
New Hampshire	65	67	132
New Jersey	365	312	677
New Mexico	50	49	99
New York	1,784	1,594	3,378
North Carolina	129	203	332
North Dakota	93	123	216
Ohio	891	1,185	2,076
Oklahoma	225	259	484
Oregon	128	168	296
Pennsylvania	1,677	1,483	3,160
Rhode Island	66	60	126
South Carolina	105	74	179
South Dakota	83	142	225
Tennessee	162	203	365
Texas	404	668	1,072
Utah	70	190	260
Vermont	51	70	121
Virginia	194	295	489
Washington	189	318	507
West Virginia	148	344	492
Wisconsin	416	1,002	1,418
Wyoming	24	85	109
Possessions	61	134	195
Canada	107	290	397
Foreign	161	266	427

The net loss occasioned by the publication for nine months in 1923 was $38,989.64; for the twelve months of 1924, $42,745.14; for the twelve months of 1925 the net loss was $5,198.12. That the loss occasioned by the publication of this periodical was reduced by more than $37,000 in one year is extremely gratifying to the Board of Trustees. The saving indicated was effected as a result of most loyal and most efficient service on the part of the editorial department of Hygeia and the personnel of the business department, and reflects the generous spirit exhibited by contributors and a more liberal patronage on the part of advertisers.

While the circulation of Hygeia has not increased to the extent that was hoped for and should have been realized, the growth in circulation has none the less been very gratifying in view of the fact that it has not been possible to resort to the far reaching and expensive methods that are generally necessary to the extension of magazine circulation.

That Hygeia has made definite progress in extending the breadth of its influence and importance is shown in its slowly but constantly increasing circulation and in its growing use as an advertising medium by advertisers of national importance. This is even more strongly reflected in the numerous quotations from its pages, which appear in magazines and in newspapers throughout the United States. Coincident with the growth in circulation and influence has come an increase in general correspondence, the letters and inquiries from the public now aggregating many hundreds annually. Commendations from physicians and from laymen continue to be received in most encouraging numbers.

Much of the material that has been printed in Hygeia has been reprinted for the use of the Bureau of Health and Public Instruction, and has accordingly received larger distribution than through the magazine alone.

The program that has been arranged for Hygeia for the current year includes the publication of articles on many topics of general and important public interest.

The appended table shows the number of direct subscribers in each state in December, 1925. Figures given in this table do not include subscriptions received after the table was prepared, and so the totals, if set out, would not represent the total circulation as of Jan. 1, 1926. A study of this table, compared with the similar table in the report of the Board of Trustees last year, will show that the circulation has increased in every state and territory except Arizona and the District of Columbia. In the District of Columbia, only one subscriber was lost. The gains that have been made in some states, however, are relatively small, although in most instances they are large enough to offer much encouragement for the future success of Hygeia. The news-stand circulation, which has registered a slight increase month by month, is not shown in this table.

It is shown in this table that in thirty-six states the circulation of Hygeia, exclusive of news stand sales, is greater among laymen than among physicians.

Bureau of Investigation

The work of this bureau has been prosecuted vigorously. That the interest of the medical profession does not decrease is shown by the fact that more demands were made on the bureau during 1925 than ever before.

COOPERATION WITH ASSOCIATED ADVERTISING CLUBS

Cooperative relations established with the National Better Business Bureau of the Associated Advertising Clubs of the World has greatly increased the work of the Bureau of Investigation, both in scope and in amount.

Component branches of the National Better Business Bureau, located in forty or more cities, now regularly receive pages from The Journal dealing with the various phases of the nostrum evil and quackery with which the advertising men might properly be concerned. More than one inquiry a day has come from the Associated Advertising Clubs, whose slogan is "Truth in Advertising," and whose interest is to abolish the advertising faker, medical and other. At the invitation of the national body, the director of the Bureau of Investigation delivered an address on "Truth in Advertising 'Patent Medicines'" at the annual meeting of the executives of the various Better Business Bureaus held in Indianapolis in September, 1925.

INQUIRIES FROM TEACHERS AND SCHOOLS

Teachers in universities, colleges, normal schools and high schools continue to ply the bureau with requests for information on "patent medicines." As a natural result, the bureau receives a large number of inquiries from pupils, not only in the higher institutions of learning, but also from the secondary schools. This feature of the bureau's work is probably pregnant with greater good for public health than any other of its activities, because it means that young people at an impressionable age are getting facts, relative to one important health problem, that will cling to them through life.

PHYSICIANS AND THE BUREAU

The physician in the field continues to utilize the services of the Association that are given through the Bureau of Investigation. Numerous letters of appreciation and commendation are received from physicians to whom the bureau has furnished information.

The lantern slides illustrating the various phases of quackery and the nostrum evil which for some years have been made available by rental or sale to physicians, have recently been supplemented. The same material has been put on stereopticon film so that it can be used in a small, light, portable stereopticon. The Bureau of Investigation now has one of these stereopticons, and the entire outfit can be rented by physicians who wish to give illustrated talks before small audiences when a picture not exceeding four or five feet in length will suit the purpose. The use of this machine will prove of value in cases in which the physician finds it difficult to obtain a standard projection apparatus and operator, since he can either operate the machine as he talks, or it can easily be operated by any untrained person.

COOPERATION WITH COUNTY SOCIETIES AND STATE ASSOCIATIONS

The bureau is now being called on to a greater extent than ever before by officials of the component county societies and of the constituent state associations who seek information concerning physicians not members of these societies, but who may be seeking membership or who may be potential timber for membership. It would be greatly to the interest of clean, organized medicine for officers of constituent state associations to obtain from the Bureau of Investigation information relative to individual physicians who may apply for, or be solicited for membership.

PAMPHLETS AND REPRINTS

The various pamphlets on quackery and the nostrum evil prepared by the bureau have been kept up to date. In addition, reprints have been made of articles that might serve a special purpose. The series of four articles that appeared in Hygeia under the general title "Exploiting the Health Interest," and which dealt with the so-called "physical culture" propaganda has been reprinted as a special pamphlet. Copies of this pamphlet are put into the hands of the officers of constituent state and component county medical societies when required. The article on "Deafness Cure Quackery and Pseudo-Medicine," which also appeared in Hygeia, has been reprinted, and two thousand copies are being distributed by the American Federation of Organizations for the Hard of Hearing.

NEWSPAPERS AND MAGAZINES

Those newspapers and magazines that make some effort to keep their advertising columns free from medical fakes continue to call on the bureau for information that will enable them to act intelligently when advertising copy is submitted to them.

Hygeia continues to bring an ever-increasing number of inquiries from laymen on matters pertaining to "patent medicine" quackery and pseudomedicine generally.

The demand for educational posters is larger than ever, and the supply of those dealing with vitamins in food and food-iron have been exhausted. With the valued assistance of some of the best authorities on nutrition and dietetics, these posters are now in process of revision, and new editions will be issued.

Cooperative Medical Advertising Bureau

Thirty-one state medical journals are now being published, some of which represent more than one association. Thirty of these continue to be served by the Cooperative Medical Advertising Bureau. Advertising contracts secured by the bureau for these thirty journals in 1925 produced for them an income considerably in excess of $100,000, and exceeded the advertising income secured for them in 1924 by slightly more than $10,000. In addition to collecting and remitting to the state journals the proceeds of these contracts for current advertising, the bureau also rebated to the journals the sum of $6,300, which is $800 more than was rebated in 1924.

The state association journals are doing a splendid work, and most of them reflect great credit on the organizations they represent and on their editors and managers. These journals exhibit a splendid spirit of cooperation with the American Medical Association and with one another. They keep the individual members of their own associations informed about conditions in the respective states and abroad; they offer an avenue for the publication of original articles by members of the state societies, and they exert a helpful influence in behalf of organized medicine generally.

A considerable part of the revenue needed for maintaining these journals must be secured by the sale of advertising space. The Cooperative Medical Advertising Bureau is intended to produce revenue from this source for their benefit, to the end that they may be self-sustaining and that their publication may thereby be made easier and their scope of influence widened.

Constant improvement can be noted in practically all these journals. If the activities of the bureau have contributed to this end, its establishment and work have been thoroughly justified and this fact will serve as inspiration for more earnest effort to promote their interests.

Bureau of Health and Public Instruction

The number of physicians and medical societies, as well as the number of laymen and lay organizations, seeking material to aid them in their programs for the instruction of the public in matters pertaining to medicine is steadily increasing. Some of the stronger state medical associations are well organized and equipped to conduct effective campaigns in this direction. With others this is not the case. In some states, semi-lay organizations have been created that are very closely affiliated with the state medical associations in order that intelligent guidance may be had. In most states the state boards of health are very active in the field of public education. From all the states a constantly increasing demand for information and for educational material comes to the Bureau of Health and Public Instruction.

NEW PAMPHLETS

One of the principal functions of this bureau is to supply material in the shape of short, attractive pamphlets written for the layman, to be circulated by the various agents referred to above. To the list of publications of the bureau, there have been added those named below:

1. Health Poster Booklet. Reproduction in miniature of 207 posters.
2. Whooping Cough. Dr. Beatrice R. Lovett, from Hygeia for March, 1925.
*3. Health of the Worker. Lee K. Frankel, from Hygeia for April, 1925.
*4. Conquest of Yellow Fever. Dr. Arthur I. Kendall, from Hygeia for April, 1925.
5. Eleven Exercises for Men. Prof. S. C. Staley, from Hygeia for June, 1925.
6. (*a*) Food After Forty. Mary S. Rose, from Hygeia for July, 1925.
   (*b*) Reducing as a Science. Stern and Meserve, from Hygeia for July, 1924.
   (*c*) Now this Matter of Reducing. L. M. Davidoff, from Hygeia for April, 1924.
   (*d*) Fooling the Fat. Dr. Arthur J. Cramp, from Hygeia for December, 1923.
   (These four articles reprinted as a single pamphlet under the title "Obesity—Helpful Advice to the Overweights" from Hygeia.)
7. (*a*) Have I Good Eyes? from Hygeia for December, 1924.
   (*b*) Baby's Eyes, from Hygeia for July, 1925.
   (*c*) Eyes for School, from Hygeia for September, 1925.
   (These three articles, by Dr. Edward Jackson, reprinted in one pamphlet.)
*8. Shall I Fear an Anesthetic? Dr. Floyd T. Romberger, from Hygeia for August, 1925.
9. Cancer of the Stomach. Dr. Julius Friedenwald, from Hygeia for August, 1925.
10. How I Use Hygeia in My Classwork. Prize letters reprinted from the issues of Hygeia for September, October and November, 1925.
*11. Exercises for Business Women. Lydia Clark, from Hygeia for November, 1925.

It will be noted that all of these have appeared in Hygeia, and reprints have been made of the original articles for distribution on demand.

DISTRIBUTION OF PAMPHLETS, POSTERS AND OTHER MATERIAL

More than 214,000 copies of the publications distributed through this bureau were disposed of in 1925. The new Manual of Suggestions for Health Examinations was distributed among physicians to the number of 31,455 during the year, in addition to more than 5,000 copies of the smaller pamphlet first published under the title of "Health Examination Instructions." The demand for pamphlets on cancer, conservation of vision, protection of scientific research, sex education, infant welfare, and communicable diseases has been well sustained.

HEALTH EXHIBITS

Exhibits from the Bureau of Health and Public Instruction and from Hygeia were displayed during the year at the annual session of the American Medical Association; at the meeting of the Superintendents' Section of the National Education Association; at the National Baby Congress and Health Exposition of the Illinois State Medical Society, in Chicago; at the meeting of the American Dental Association, in Louisville, Ky., and at the meetings of several state medical associations. Material has also been provided for exhibits under the auspices of state and county medical societies and other organizations.

HYGEIA QUESTIONS AND ANSWERS COLUMN

The conduct of the "Questions and Answers" column in Hygeia has devolved largely on this bureau. The number of questions received has steadily increased, and replies have been sent direct to inquirers. Many of the questions are in the nature of repetitions. Only those of general interest have been replied to in Hygeia. All questions are answered, whenever possible, by physicians who are recognized as authorities in their several fields, and thus, this department in Hygeia is given a character of authority and weight that is distinctive. The replies that are thus provided are printed without signature. The bureau and the Association are much indebted to Fellows who have given fully of their time and thought in this service.

PERIODIC HEALTH EXAMINATIONS

The movement to promote periodic examinations of apparently healthy persons is proceeding in a reasonably satisfactory manner. The preparation of a Manual of Suggestions for Health Examinations for physicians was undertaken with the assistance of a special committee, which revised the examination blank heretofore used. The committee that performed this important work was composed of Fellows of the Association of the highest professional standing. To secure a primary draft, to subject it to revision and rerevision by each member of the committee, required considerable time, but it was believed to be important that, before the manual was published, it should have the critical study and approval of the entire committee. The manual appears to have met with a cordial reception by the profession throughout the country. Twelve state medical associations have purchased enough copies of the manual to present one copy to each of their members. It has been furnished to these state associations at cost.

CONFERENCE ON PERIODIC HEALTH EXAMINATIONS

Pursuant to the action of the House of Delegates at the Atlantic City Session, a Conference on Periodic Health Examinations was held in Chicago, Nov. 20 and 21, 1925, at the same time that the Conference of Secretaries of Constituent State Medical Associations was held. This conference was well attended, and it is believed that the papers and discussions offered constitute an important contribution. The proceedings have been reported in abstract in The Journal and have been published in full in the American Medical Association Bulletin. One of the outstanding lessons of this conference appears to teach that the especial need at this time is for leaders in each state who will serve as lecturers and demonstrators to county and district medical societies for the purpose of promoting periodic medical examinations, by practicing physicians, as a distinct service that can be rendered to the public by the profession.

It is suggested that every county and district medical society should devote at least a portion of two meetings during the year to the subject of periodic medical examinations. With the aid of officers of the state medical association concerned, each county and district medical society should be able to secure a lecturer and demonstrator for at least one meeting. The faculties of medical schools should, and undoubtedly will, be glad to cooperate in this important work.

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* Reprinted on advance order from the author or some other agency.

LANTERN SLIDES

Through the kindness of Dr. S. Dana Hubbard of the New York City Department of Health, the Bureau of Health and Public Instruction has received about 400 lantern slides dealing with health topics. It is hoped that this collection of slides can be enlarged and catalogued, and made easily available to county medical societies and other organizations that may desire to use them.

HEALTH EDUCATION OF THE PUBLIC

At the suggestion of the Surgeon General of the United States Public Health Service, the bureau undertook to ascertain what each state and county medical society is doing in the matter of health education of the public. The United States Public Health Service undertook a similar inquiry with respect to the activities of local and state departments of health. A questionnaire was sent out by the Bureau of Health and Public Instruction to the secretary of every state and county medical society. About 900 replies have been received. Recently a second letter has been sent to societies that did not reply to the first. A tabulation of 890 of the replies received gives the following information as to the activities of county medical societies in this field:

Two hundred and sixty-two, or about 30 per cent, are engaged in promoting health education.

Only fourteen of these societies publish a bulletin or equivalent.

Four hundred and five have made use of newspapers as a medium of disseminating helpful information.

Two hundred and forty-four have used Hygeia, in one way or another, in this educational work.

Four hundred and fifteen report that talks on health have been delivered by members of these societies.

Forty-two have made use of the radio.

Two hundred and seventy-seven societies report that organizations in which laymen are cooperating have been formed to promote health activities.

Three hundred and sixty-nine have staged health exhibits.

Four hundred and fifteen have been interested in special campaigns, such as those promoted against tuberculosis, cancer and for infant welfare.

One hundred and seventy-two have taken active steps to promote periodic health examinations.

RADIO HEALTH TALKS

Through station KYW, Chicago, the bureau has continued its monthly program of health talks, using material from Hygeia. Recently, KYW assigned a definite hour to the bureau, and these talks will be broadcast at 2:30 p. m. on the second Monday of each month. Material from Hygeia is also being broadcast from stations located in several cities, this being done under the auspices of local medical societies.

Council on Pharmacy and Chemistry

The Council on Pharmacy and Chemistry during the past year has carried forward its work of informing the medical profession in regard to proprietary medicines which physicians are importuned to use.

The service this council is rendering the medical profession is gaining greater appreciation each year, and increasing numbers of physicians are availing themselves of the information placed at their disposal. As a result, the commercial production and distribution of medicinal products is on a higher plane in the United States than in any other country; as a further result of the Council's vigilance, promoters of foreign proprietaries do not, in general, attempt the marketing of their products in this country unless these are of a character to receive favorable consideration by the Council.

However, the work of this body of trained men, who labor untiringly and without remuneration in the cause of rational and scientific medicine, deserves even wider recognition and acceptance. It will receive this when physicians more generally recognize the fact that those who compose the Council have the needed specialized training to enable them, better than the average physician, to form a correct estimate of the many new medicaments appearing each year; as, for instance, when the chemist challenges the asserted composition of a medicament because the formula is in woful disagreement with chemical laws; when the pharmacist recognizes a "new" Danish iron compound as the almost forgotten "dialysed iron"; or when the pharmacologist notes that the supposed effects of a drug indicated by a tracing were already perceptible before the administration of the drug was begun.

THE COUNCIL AT WORK

During the year the Council has considered its usual quota of proprietary and nonproprietary substances. Of these, about one half were found acceptable for New and Nonofficial Remedies; a few were found not to come within the scope of this book; less than one fourth were found unacceptable, and the remainder are still under consideration.

Among the products that were accepted for inclusion in the 1926 edition of New and Nonofficial Remedies, now in press, are scarlet fever toxin preparations used to determine susceptibility or to establish immunity, and curative scarlet fever antitoxins; a parathyroid extract of determined effect on the calcium content of blood serum; two antimony compounds for use in trypanosomic infections; tryparsamide, developed in the Rockefeller Institute for Medical Research; tetraiodophthalein sodium, for the visualization of the gallbladder; and hexylresorcinol, developed by Veader Leonard.

Included among the products that were held not to require acceptance (because they were official articles, sold under official names and without unestablished claims) were a number of "natural" salicylate preparations. Formerly, salicylates made from oil of wintergreen or sweet birch were sold as "natural," with claims of great superiority over the "synthetic" variety made from phenol; the extensive researches of the Council have brought about the abandonment of such claims of superiority in the case of certain brands, which are now sold with the claim, simply, that they are made from the natural oil.

Among the products that were denied admission to New and Nonofficial Remedies was a French bismuth preparation, claimed to be tartrobismuthate of potassium and sodium. Accepting the uncontrolled statement of the manufacturer, physicians have published articles detailing their experiences with this "tartrobismuthate of potassium and sodium." The product was found not to have the composition claimed, but to be a bismuth tartrate; thus medical literature is permanently marred by the uncontrolled acceptance of incorrect proprietary propaganda.

Other preparations that had to be rejected included: "colloidal gold," an asserted cancer remedy; a dried yeast preparation offered as a diabetes remedy; a germanium dioxide preparation for use in anemia; liposan; a chaulmoogra oil soap solution for intravenous use against a host of conditions; and an assortment of complex, unscientific mixtures which certain firms still exploit and which, it is feared, an undue number of physicians continue to prescribe.

Of the products that are still under consideration, a few await action on the part of the Council; the very large majority, however, are being held to await action by the proprietor or agent—chiefly either the discontinuance of claims that were found unacceptable or the submission of further evidence in support of claims that have been challenged.

In addition to the consideration of products that are presented for acceptance, the Council spends much time in determining whether the articles that have been accepted may be continued in New and Nonofficial Remedies. Products are accepted for a specified period—usually for three years—and at the expiration of that time the Council examines the current claims for the product and decides whether it may be retained or must be deleted. If retained, the question of revising the N. N. R. description is considered.

The care with which the Council conducts the examination of products will be better appreciated if it is pointed out that the information submitted for a product by a manufacturer is presented to the entire Council in a weekly bulletin; that all reports are considered by the entire Council through this bulletin; that the advertising material for a product is submitted to each member, and that an unfavorable report is sent to the proprietor of a product and his reply considered through this bulletin before such a report is published.

THE COUNCIL PUBLICATIONS

New and Nonofficial Remedies, published annually, is the book in which the Council lists and describes medicinal products deemed worthy of recognition by the medical profession. Each edition contains those products that stand accepted on

January 1 of the current year. During the year, descriptions of newly accepted products are published in the New and Nonofficial Remedies department of The Journal, and later these descriptions are sent out in the form of a supplement to the purchasers of the current book. New and Nonofficial Remedies contains an insert which gives the names of proprietaries not included or regarding which The Journal has published information. Thus, the book is a veritable encyclopedia of proprietary medicines.

The Reports of the Council on Pharmacy and Chemistry are also published annually and contain reports of the Council adopted for publication during the year, most of which have previously appeared in The Journal. These reports have been brought together in the Propaganda for Reform. There are two volumes of this book, the first containing the more important reports published before 1916, and the second containing those reports published between 1916 and 1922.

Useful Drugs is a concise but thorough and up-to-date discussion of the actions, uses and dosage of the more important drugs. A revision of the sixth edition of this book was issued in 1925, and a further revision, which will be ready in the fall of this year, has been made necessary by the issuance of the new U. S. Pharmacopeia and a new edition of the National Formulary.

The Epitome of the U. S. Pharmacopeia and the National Formulary presents those portions of these volumes which are of interest to physicians, and, in addition, gives a concise statement of the therapeutic usefulness of the drugs and preparations described. A new edition of this useful book is now in preparation.

THE MEMBERS OF THE COUNCIL

The members of the Council on Pharmacy and Chemistry, as also the members of other councils and committees of the Association, are devoting much time and thought to their work purely from altruistic motives and without remuneration. Through this tireless and unselfish devotion of its members, the Council is enabled to give far more cooperation and advice to investigators and manufacturers in the development of new medicaments than is shown by its published reports. It is significant that most of the members have served since the establishment of the Council, and that new members have quickly become interested and active in the efforts being made to advance therapeutics and drug therapy.

Professor Julius Stieglitz, head of the department of chemistry of the University of Chicago, because of the increasing demands made on him in connection with his university work, has resigned from the Council. The outstanding service which Professor Stieglitz has rendered in the development of the American drug industry and in the promotion of scientific therapy is deserving of the appreciation of the medical profession.

CONSULTANTS OF THE COUNCIL

When occasion arises, the Council seeks and obtains the assistance of men who are trained in special fields. During the past year, it has received valuable information and assistance from the following: H. N. Cole, P. J. Hanzlik, Albert Keidel, F. C. Rodda, E. A. Doisy, A. J. Carlson, G. H. W. Whipple, P. A. Shaffer, Frank Smithies, W. A. Bastedo, Emil Novak, H. L. Kretschmer, O. S. Ormsby, E. P. Richardson, Hugh T. Patrick, L. F Kebler, George E. Shambaugh and Ralph Major. The aid given by Bastedo, who prepared an estimate of the value of digestive enzymes based on a questionnaire sent to the members of the American Gastro-Enterological Association, as well as that given by Novak, who prepared a statement of the present day estimate of the value of antistreptococcus serum, presenting the views of leading clinicians, deserves especial mention.

The Council has brought about a revolution in the field of therapeutics such as was thought impossible at the time its work was started twenty-one years ago Much remains to be done, however, before drug therapy can be said to have been placed on a thoroughly sound basis. To this end, the constructive work of the Council must be continued with unabated vigor and determination. The success of its endeavors will depend less on the work done by the Council than on the support that is given by the rank and file of the medical profession. Support can be most efficiently given by physicians, with fullest justice to themselves and their patients, by confining their use of proprietary medicines to those that have been found acceptable for inclusion in New and Nonofficial Remedies, the official publication of the Council.

THERAPEUTIC RESEARCH COMMITTEE

In the report for the last year it was pointed out that the Therapeutic Research Committee aims to aid the investigation of problems from the point of view of treatment; and that this assistance extends in three directions: (*a*) the organization of therapeutic research requiring collaboration; (*b*) the support of investigations of problems of special interest to Council work; (*c*) the support of problems submitted independently. Regarding the last named category it was explained:

> *Support of Problems Submitted Independently:* This has taken the form of contributions toward the material expenses of investigations that were somewhat beyond the ordinary budgets of the laboratories of the investigators. Owing to the unusual inelasticity of department budgets, even relatively small grants are often of very material assistance to such investigations; and the encouragement that is given to the investigators by this recognition of their work is perhaps even more valuable, to their personal enthusiasm, and to their local support.

The committee decided to concentrate its support especially on this line, and inquired of the directors of 150 active university departments whether they were contemplating therapeutic problems that would be promoted by this support. The response was very gratifying. Fourteen eligible problems of high quality were submitted; one, however, too late for consideration. The requests totaled $3,350, and the full amount asked could have been used to advantage. As it was not available, the committee granted seven requests in part, and six in full, appropriating in all $2,375 for these grants. This was distributed as follows:

One grant at $300
Four grants at $250.
One grant at $200.
Seven grants at $125.

Six excellent papers appeared during the year; three other papers are in press and five in preparation. The success has been such that the committee wishes to continue the policy this year.

THERAPEUTIC RESEARCH

The following is a list of the investigations conducted under the Therapeutic Research Committee and published during 1925:

1 The Chemotherapeutic Properties of a Substance with a Chain of Four Arsenic Atoms, H. G Barbour, G B. Ridout and D. Claydon, *Journal of Pharmacology and Experimental Therapeutics*, February, 1925.

2. The Respiratory Gas Percentages During Nitrous Oxide Anesthesia in Dogs, Charles W Greene and Hiram M. Currey, Archives of Internal Medicine, March, 1925

3. The Distribution of Nitrous Oxide and Oxygen in the Blood of Dogs During Gas Anesthesia, Charles W. Greene, Archives of Internal Medicine, March, 1925

4 A Consideration of the Clinical Value of Ephedrin, T. Grier Miller, *American Journal of the Medical Sciences*, August, 1925.

5 Blood and Symptomatic Changes Following the Intravenous Administration of a Variety of Agents and Solutions, P. J Hanzlik, F. De Eds and M. L. Tainter, Archives of Internal Medicine, October, 1925.

6. The Determination of Traces of Mercury 1 The Sensitivity of the Qualitative Tests for Mercury. A New Method for the Detection of Mercury Sensitive to One Part in a Billion, Harold Simmons Booth and Nora E Schreiber, *Journal of the American Chemical Society*, November, 1925

The Chemical Laboratory

The chemical laboratory has been engaged most largely in evaluating synthetics and drug preparations for the Council on Pharmacy and Chemistry and in analyzing nostrums for the Bureau of Investigation. In addition to this, however, several independent investigations were undertaken in 1925.

WORK FOR THE COUNCIL ON PHARMACY AND CHEMISTRY

The work which the laboratory is called on to do for the Council on Pharmacy and Chemistry on the new materia medica is becoming increasingly involved and difficult. Whereas formerly the average product submitted required mainly a careful inspection of its purity and assay, the new products present problems of chemical constitution of a new sort and of physical chemistry—particularly of colloids—in addition to the necessary assay methods. Most of the new products submitted to the Council have been examined, though the increasing number of manufacturers cooperating with the Council will make it impossible to examine all products without enlarging the laboratory personnel.

Among the products accepted during 1925, after investigation by the laboratory, were antimony thioglycollamide and antimony sodium thioglycollate; the interesting new arsenic compounds solarson, stovarsol and tryparsamide; various bismuth compounds; the new dyes for cholecystography; mercury compounds; hexylresorcinol and resorcinol monacetate; a large number of silver preparations, and a xanthine derivative.

The laboratory has also examined products, the rejection of which by the Council has been based wholly or in part on the laboratory's findings.

WORK FOR THE BUREAU OF INVESTIGATION

The laboratory has continued to analyze nostrums for the Bureau of Investigation. "Patent medicine" analysis is much more complicated than formerly. During the past year, a number of the more recent synthetics have been detected as ingredients in various polypharmaceutic combinations. In each case it has been necessary to devise methods of determination before analytic data could be obtained. Not all of the scientific investigations that have been made have been published in The Journal, some of them simply having been made for the purpose of supplying data for the bureau's files.

INDEPENDENT INVESTIGATIONS

The laboratory has published articles on the examination of commercial brands of cinchophen, showing that all brands examined are satisfactory. Through this investigation the fact has been established that the sale price of certain proprietary products is from two and one-half to six times as large as the sale price of nonproprietary brands.

Two articles have been published on the results of an extended study of bismuth compounds. This work has shown in how unsatisfactory a state bismuth therapy must necessarily be, particularly when the composition of some of the preparations on the market is not even known by the manufacturers themselves. In some cases, manufacturers have changed the names of their products in order to comply with the findings of the laboratory.

Publication has been made of the results secured through a study of liquid petrolatum-agar mixtures, it having been shown that the amount of agar in some of these mixtures was only a fraction of the amount claimed.

One of the chemists attached to the laboratory has prepared a paper on the action of mercurochrome-220 soluble and other mercurials on yeast. This paper has been temporarily withheld from publication in order that a small amount of additional work may be done.

THE LABORATORY AND PHYSICIANS

Members and Fellows of the American Medical Association are making increasing use of the files of the laboratory, as is evidenced by the growing correspondence on chemical topics. Continued service has been rendered to The Journal and to Hygeia. It is gratifying to note how many of the answers to chemical queries, first published in The Journal, are subsequently abstracted or reproduced in other publications.

CONTRIBUTIONS TO SCIENTIFIC PUBLICATIONS

During the year, each of the chemists attached to the laboratory has contributed to scientific publications other than those of the American Medical Association. An article by Mr. L. E. Warren on "Bismuth Compounds Used in Syphilis" was published in the *Journal of the American Pharmaceutical Association*. Dr. J. B. Peterson described, in *Industrial and Engineering Chemistry*, a new and sensitive test for demonstrating the absence of citrates and tartrates in mixtures. The director of the laboratory, Dr. Paul Nicholas Leech, appeared before the American Pharmaceutical Manufacturers Association and presented an address on "Chemistry in the Service of Pharmaceutical Medicine," which later appeared in The Journal.

WORK IN THE FUTURE

The laboratory is now well equipped for the work in hand, and possesses practically all apparatus necessary. From time to time additional equipment will be added as new types of work are taken up or new methods of procedure come into use.

There is much important work that the laboratory would like to undertake which cannot be undertaken without a larger personnel than is now attached. It is intended, however, to go into the investigation of classes of new remedies from time to time in order to keep the medical profession informed of their status. This was done last year in a study of bismuth compounds and other products. The laboratory will also endeavor to report on the reliability of certain official (U. S. P.) preparations, particularly since the government is not so active in prosecuting as formerly, and since the findings of the U. S. Bureau of Chemistry are generally not available for publication.

The value of a chemical laboratory maintained by the American Medical Association is thoroughly demonstrated when comparisons are made between conditions exisiting in this and in other countries. Certain proprietaries are advertised abroad as possessing this or that chemical structure, wheras such advertising is not made in the United States when the composition of these proprietaries has been shown to be otherwise. Not infrequently, articles on new therapeutic agents appear in journals published in other countries, in which the chemistry is quite inaccurately given. American manufacturers seem to welcome suggestions from the laboratory of the American Medical Association. In some instances, improvements have been made or products have been withdrawn as a result of suggestions offered to manufacturers.

Forty new drugs and preparations were included in the last edition of the United States Pharmacopeia; of these, thirty-one were already described in New and Nonofficial Remedies, and most of the tests and assays were worked out in the Association's laboratory.

The Scientific Exhibit

The Scientific Exhibit at the annual sessions of the Association has grown year after year, and the character of the material exhibited, as well as the methods and completeness of demonstrations, has constantly improved. At the Atlantic City session, personal demonstrations by distinguished leaders in American Medicine caused the hall of the Scientific Exhibit to serve as a gathering place for many interested groups to discuss advances in medicine.

At the last session, the Scientific Exhibit was marked by several unusual demonstrations. A cooperative exhibit arranged by members of the Section on Dermatology and Syphilology showed graphically the effects of syphilis. Under the auspices of a committee appointed by the Board of Trustees, a special exhibit on the heart was made at the Chicago session. At the Atlantic City session this committee, at its own expense, continued this exhibit, taking up new features, and great interest was manifested by those in attendance. The special exhibit on Morbid Anatomy, begun at the Chicago Session and repeated at Atlantic City, aroused such interest that the Board of Trustees has been convinced of the desirability of continuing this exhibit at every succeeding annual session where the necessary material can be secured.

The two special exhibits referred to above were not open to awards. Except in the educational classification—where work of organizations is exhibited—material presented in the Scientific Exhibit is presented in the name of the individual and not in the name of the institution where research on which the exhibit bears has been done, though the name of such institution always appears. Awards have been made to individuals. The report of the Committee on Awards appeared in The Journal, June 13, 1925, p. 1843.

The total number of exhibits at Atlantic City was sixty-five, and the total number of participants in the Scientific Exhibit 134.

MOTION PICTURE THEATER

The Motion Picture Theater has been operated strictly according to schedule, and for four years has not departed more than two minutes at any time from the predetermined schedule. This feature seems to be gaining in favor with each succeeding year. It represents a large amount of work, both on the part of the physicians participating in the program and on the part of the personnel of the Association responsible for the Scientific Exhibit. At Atlantic City an operating personnel of fourteen was required to put on this program. Thirty-nine speakers were scheduled for eighty-one periods. One half of the entire number of speakers on this program are invited after nominations made by officers of the sections, and thus representation in all fields of medicine is provided for. The other half of the program is given over to voluntary applicants. The moving picture theater at the annual session has become an outstanding factor for instruction in the diagnosis and management of disease.

At Atlantic City, several moving picture films never shown before were presented. A unique feature of the program was the demonstration of the use of telephone pictures and devices for conveying electrocardiographic and stethographic pictures and heart sounds. This feature was presented through the kindness of the American Telephone and Telegraph Company.

THE COMMITTEE ON SCIENTIFIC EXHIBIT

The Committee on Scientific Exhibit is a committee of the Board of Trustees. It has received splendid assistance from an advisory committee, for which most grateful acknowledgment is hereby made. The members of the committee have been much gratified by words of commendation concerning both the exhibit proper and the Motion Picture Theater as reported to constituent organizations by delegates, and as published in various state medical journals.

Disaster Relief

At the Atlantic City Session, Dr. William Allen Pusey, then President, submitted to the House of Delegates a recommendation to the effect that a committee be appointed to devise a plan whereby the Association, through its component and constituent units, might cooperate with the American Red Cross or other official agencies in providing medical relief in times of disaster. This matter was referred to the Board of Trustees, and the gentlemen whose names are signed to the appended report were appointed a committee to present a plan of organization for the purposes indicated. The Board endorses this report which provides for cooperation through the American Medical Association, the state medical association, and the county society.

Bureau of Legal Medicine and Legislation

The Bureau of Legal Medicine and Legislation endeavored throughout the year to keep in touch with federal and state legislation so as to enlist the support of constituent state associations in the federal field and to cooperate with them in their respective state jurisdictions. Senators and Representatives at Washington turn to the physicians of their own states for guidance and advice with respect to medical legislative matters. In this fact our state associations should recognize the full measure of their responsibility for state leadership and action with reference to legislation pending in Congress. This bureau is ready to do its part toward cooperating with state associations in the field of state legislation, but in such matters the initiative must ordinarily come from the state organization, which should recognize the fact that legislation enacted in any state may be urged as a precedent for the enactment of similar legislation elsewhere and is a matter of concern to every other state. Because of this common interest, state associations are urged to keep the bureau informed as to their legislative problems and their methods of solution, as only thus can each state association have conveniently available the experiences of other similar organizations. By interchange of experiences, which it is one of the functions of this bureau to promote, the state association can reduce to a minimum the occasions in which they acquire knowledge in the school of experience and in which knowledge often comes too late to be of practical value.

TAX REDUCTION

When it became apparent that a bill would be introduced into Congress providing for revision of the revenue act of 1924, the Bureau of Legal Medicine and Legislation immediately took action to enlist constituent state associations and other interested agencies in a movement to reduce the narcotic tax and to have written into the new act language specifically authorizing the deduction in the computation of physicians' income taxes, of traveling expenses incident on attendance to medical meetings, and of expenses of postgraduate study. The response was generally all that could be desired.

The Executive Secretary of the Bureau of Legal Medicine and Legislation and Dr. C. W. Richardson, of the Board of Trustees, appeared before the Ways and Means Committee of the House of Representatives, and, as a result of the activities of officers of constituent state associations and component county societies and the presentation made before the Ways and Means Committee, the House of Representatives adopted a bill in which the narcotic tax was reduced to a one-dollar-a-year basis. At the time of preparation of this report, there is every prospect that the Senate will concur. It may be conservatively estimated that the reduction in the Harrison narcotic tax will save physicians registered at least $150,000 a year.

Efforts to procure favorable action with regard to deductions for traveling expenses and expenses for postgraduate study have so far been unavailing. In presenting to congressional committees and to the Treasury Department the plea of the Association for the right to deduct these expenses, it has been consistently contended that the medical profession asked only the insertion of a clause to correct an erroneous interpretation given to an existing law by the Commissioner of Internal Revenue, and no change in its substance. Although Congress was unwilling to afford this relief, it is still possible to appeal from the decision of the commissioner to the Board of Tax Appeals and to the courts. Such appeal, however, cannot be taken by the Association as such, but must be taken by an individual physician whose claim has been disallowed by the commissioner and who has been called on because of such disallowance to pay an additional tax. The Board of Trustees stands ready, through the Bureau of Legal Medicine and Legislation, to cooperate with any member of the Association who has in hand adequate evidence to support such an appeal, in carrying it to a conclusion, so as to establish a precedent on behalf of the whole profession.

NATIONAL PROHIBITION ACT

At its 1925 session in Atlantic City, the House of Delegates adopted resolutions with respect to the National Prohibition Act as supplemented, as follows:

> *Resolved,* In view of the fact that such portions of the Volstead act and the amendatory acts may be declared unconstitutional, that, as a substitute therefor, regulations should be forthwith drafted by the Prohibition Department to the end that the present abuses may be abated, and existing prohibitions as to the practice of medicine removed; and that this Association use all means within its power looking to the preliminary approval of such regulations by the Prohibition Department and the Commissioner of Internal Revenue; and be it further
>
> *Resolved,* That the Board of Trustees be directed to appoint a committee to cooperate with the Commissioner of Internal Revenue and the Secretary of the Treasury in the formulation of such regulations as under the National Prohibition Act, as amended, may be necessary to carry said act into effect, so far as the medicinal use of liquor is concerned.

The Board of Trustees appointed, under the provisions of this resolution, the following committee: Dr. William H. Mayer of Pittsburgh, Dr. Alexander Lambert of New York, and Dr. Paul D. White of Boston. On the recommendation of the Executive Secretary of the Bureau of Legal Medicine and Legislation, the Board of Trustees, to unify the activities of the Association bearing on the National Prohibition Act, authorized this committee to deal with all matters arising under the act, with the understanding that the executive secretary of the bureau would cooperate. In addition to the matter of drafting the proposed regulations called for by the resolutions, the committee had before it an inquiry from the Assistant Secretary of the Treasury as to the advisability of reducing existing quantitative limits on the liquor obtainable for emergency use and of alcohol for other than external use. The report of this committee, including recommendations submitted to the Assistant Secretary of the Treasury, is appended to this report as a part thereof.

The Board of Trustees was requested to cooperate on behalf of the Association in carrying on the appeal in the case of *Lambert* v. *Yellowley* and others, now pending in the United States Supreme Court. The object of this suit is to have declared unconstitutional the quantitative limits on prescribing liquor as now laid down in the National Prohibition Act and in the act supplemented thereto, on the grounds that no authority has been delegated under the constitution to Congress to proscribe the use of remedies which qualified physicians believe to be efficacious in the treatment of disease. After careful investigation, the executive secretary of the Bureau of Legal Medicine and Legislation was authorized to join in this case on behalf of the Association as *amicus curiae*, if the consent of the court can be obtained, or by signing a brief to be submitted to the Supreme Court. This case is still pending.

Two bills have been introduced into Congress to remove restrictions imposed by the National Prohibition Act and the supplementary act on the quantity of liquor prescribed and the number of prescriptions issued. The committee referred to above is keeping in touch with these bills and with others designed to amend the prohibition laws, as well as with prospective amendments to regulations. No bill has been introduced or any change in existing regulations suggested to limit the sale of medicinal liquor to bottled-in-bond packages. Such packages, however, can now be obtained in many drug stores. Physicians can do much to encourage a wider distribution of such packages by specifying that liquor prescribed by them shall be dispensed in bottled-in-bond packages, and by sending their prescriptions to drug stores where this can be done.

Various statements discreditable to the medical profession, made by representatives of the prohibition unit, implying the unlawful prescribing of liquor or of narcotics, and in one instance implying the widespread use of narcotics by local physicians, have been brought to the attention of the Prohibition Commissioner. The commissioner has investigated such complaints and when they have been found justified has taken action to prevent repetitions. The medical profession cannot object to publicity affecting a named physician who has violated the law or against whom charges have been brought; but until a prosecuting officer is willing to prefer such charges or has proved them, it is premature for him to make any statement. Certainly it is unjust for any such officer to issue statements reflecting on the good name of the profession generally, when he is unwilling to name the physicians, if any, who he knows are offending.

NARCOTICS

Reference has already been made to the fact that through the activities of the Association the tax under the Harrison Narcotic Act will probably be restored by Congress to its prewar basis.

In May, 1925, the Commissioner of Internal Revenue undertook to require all physicians prescribing any of the so-called exempt narcotic preparations to register in class 5 of the Harrison Narcotic Act registrants, even though they were registered in class 4 and so had the right to prescribe narcotics generally. He conceived that one who prescribed a drug thereby "dispensed" it and therefore had to register under the provisions of the act, which requires persons "dispensing" exempt narcotic preparations to register. The proposed additional registration might have been effected without cost, but, had it been conceded that physicians who prescribe the so-called exempt preparations were required to register in class 5 as dispensers, it would have followed necessarily that they would be required to keep a record of every such prescription, even though not required to keep records of more potent narcotic drugs prescribed or dispensed. After an appeal and a hearing in Washington, the proposed compulsory dual registration was abandoned.

The drafting of a model state narcotic law by a special committee of the National Conference of Commissioners on Uniform State Laws is still under way. At the last meeting of this conference a draft was submitted, but it was returned to the committee for further consideration in view of criticisms offered by the Bureau of Legal Medicine and Legislation.

VETERANS' BUREAU

Treatment by the Veterans' Bureau of Diseases and Injuries Not Incurred in Military Service.—The House of Delegates, at its 1925 session, adopted two resolutions disapproving of the provisions of the World War Veterans' Act of 1924 granting to all veterans, regardless of financial need, the privilege of hospitalization and treatment at government expense for all diseases and injuries whatsoever. This action of the House of Delegates was based on the facts that the obnoxious provisions of the law operated to create a federal subsidy in favor of salaried physicians in the service of the government and in favor of government hospitals, and against physicians in private practice and in private hospitals, and tended to pauperize an independent self-supporting part of our citizenship. It was pointed out also that government bounties such as are provided for by the act impose unjustly an unneeded tax when the cost of government is already imposing an undue burden on the people. That the objections offered by the House of Delegates had a substantial basis is shown by the fact that, during the fiscal year following the granting of such bounties as are provided for in the act, 13,243 persons entered hospitals under the jurisdiction of the Veterans' Bureau for the treatment of diseases and injuries not related to military service. This number constituted approximately 17 per cent of the entire number of patients admitted to such hospitals. The cost of treatment administered to these patients was approximately $5,000,000. As veterans of various wars become better acquainted with the privileges granted them, and as with increasing years they become more subject to disease and infirmities of age, it may, of course, be confidently expected that the number seeking treatment for diseases, injuries and disabilities not of service origin will greatly increase. Moreover, because of the essentially chronic nature of neuropsychiatric and tuberculous diseases, paralysis agitans, amebic dysentery and blindness, all of which, regardless of origin, entitle veterans to hospital treatment as a matter of right, a gradual accumulation of veterans hospitalized because of disabilities not originating in military service may be expected. On the other hand, patients hospitalized because of service disabilities may be expected gradually to decrease in numbers, and, in the natural course of events, the number of beds needed for service disabilities will diminish in proportion. The Veterans' Act of 1924, however, will operate to fill all beds as rapidly as they become available, with patients, rich and poor, suffering from civilian disabilities, and thus will perpetuate the existing medical corps and hospital system at their present strength, or operate even to enlarge them.

There is no evidence of any tendency to curtail the privilege of medical treatment at the expense of the government. Pending legislation proposes to extend such bounty to include outpatient treatment as well as the hospital treatment already authorized. If pending bills are enacted into law, the privileges of hospitalization and of outpatient treatment will be extended to Spanish-American War nurses, contract surgeons and contract dentists. Disabled ex-service men of the war between the states, including Confederate veterans, are to be entitled to hospitalization at government expense. Every disabled ex-service man will have not only hospital but medical treatment, nursing, and all necessary care. One pending bill proposes to grant similar privileges to civilian employees who served overseas during the World War. Obviously, if the government continues the course it has begun, a considerable part of the civil population will before long be receiving medical and surgical care at home and in the hospitals, at government expense, and communistic medicine under a federal bureaucracy will be definitely established.

Unless this objectionable law is repealed, or, at least, restricted in its operation to those unable to pay for medical and hospital service, the taxpayer must look forward to an increasing burden because of diseases, injuries and disabilities having no relation whatever to military or government service. Practicing physicians and hospitals must look forward to the withdrawal of a larger and larger part of their clientele by subsidized government physicians and government hospitals; and the states, which ordinarily would care for at least such of their sick and disabled as are not financially able to care for themselves, will find themselves relieved by the federal government of that duty and expense and will be tempted further and further along the road to federal vassalage.

It seems clearly time that a halt should be called on the course that has been begun. To that end, our state associations should bring the situation to the attention of their respective senators and representatives in Congress in order that intelligent action may be taken by them. Hearings have been requested on the pending bills so that the American Medical Association may have opportunity to place its case on record before the committees having this matter in charge and before Congress:

Proposed Organization of Veterans' Bureau Medical Service.—Two bills pending in Congress proposing enlargement of the Medical relief given by the Veterans' Bureau for diseases and injuries not of service origin provide for the establishment of a "commissioned" medical corps for this bureau. The combining of the two major proposals in one bill may engender a belief that the enlargement in medical work and the commissioning of a medical corps are but parts of a scheme to aggrandize the corps and to perpetuate its existence. The likelihood of such a belief arising is not lessened by the fact that approximately 17 per cent of the work of the medical personnel of the Veterans' Bureau during the fiscal year ended June 30, 1925, was apparently directed toward the relief of diseases and disabilities not of service origin and that if this essentially civilian work had not been thrown into the bureau by the Veterans' Act of 1924, the medical personnel and hospitals required might apparently have been already considerably reduced.

The proposed establishment of a medical corps for the Veterans' Bureau was originally conceived as a method of making the medical service of the bureau more attractive to physicians already in the service so that they might be induced to remain, and to physicians outside the service that they might be induced to come in. Commissions for such medical officers would tend to enhance their dignity and standing, increase the likelihood of adequate compensation, to provide longevity pay, and to assure retirement privileges in event of disability. Whether the establishment of such a corps would be of advantage to the people as a whole or to the medical profession is worthy of serious consideration. If a commissioned corps should be established in the Veterans' Bureau, it may be that a demand would soon develop for the organization of physicians in the Indian Service and in other government services where commissioned corps are not now in existence.

REORGANIZATION OF FEDERAL HEALTH ACTIVITIES

At the time this report is being prepared, three bills of somewhat similar purport are pending in Congress providing for the reorganization of administrative branches of the government, and information in hand appears to warrant the belief that at least one other bill will be introduced which may or may not be accepted as a substitute for one or all of those now pending. Insuperable difficulties have apparently been encountered in efforts to procure enactment of legislation laying down the details of reorganization. The pending bills seek, therefore, to evade such difficulties by vesting in the President the authority to make such changes as he may deem necessary. Two of these bills authorize the President to make only such changes as may be recommended by a "Reorganization Board" consisting of two senators, two representatives, and one member appointed by the President by and with the consent of the Senate. The third bill authorizes the President to appoint an "Advisory Reorganization Board," to consist of not more than ten members, and leaves him to determine the qualifications of appointees. This bill leaves the President free to accept or reject the advice of the proposed advisory board. In all three bills the President's authority and the tenure of the proposed boards are limited; by two until June 30, 1927, and by one until the expiration of two years after the passage of the act. The Board of Trustees, through its Bureau of Legal Medicine and Legislation, is endeavoring to keep in touch with this proposed legislation.

FEDERALIZATION OF STATE HEALTH ACTIVITIES

The Sheppard-Towner Act became a law in November, 1921, Through this enactment, the sum of $1,240,000 was provided annually for five years ending June 30, 1928, to be used to pay the several states for enacting legislation for the promotion of the welfare and hygiene of maternity and infancy satisfactory to the federal government, for making preparations for carrying such legislation into effect, and for administering such legislation in a manner approved by the government at Washington. Operations under this act must lapse on June 30, 1928, unless the congress now sitting enacts a law to continue them in force. Such legislation may be enacted at any time before March 4, 1927.

Two bills are now pending in Congress to extend the system of federal subsidies to control state health and medical activities. One applies to rural health work, the other to the prevention and control of drug addiction, and both are essentially similar to the Sheppard-Towner Act, representing devices whereby the government at Washington secures from the states, through subsidies, portions of the state sovereignty guaranteed to them by the constitution. These measures are open to all the objections that have been raised against the Sheppard-Towner Act and similar measures providing government subsidies.

APPROVAL OF CHIROPRACTIC SCHOOLS BY THE U. S. DEPARTMENT OF LABOR

In July, 1925, attention was called to an announcement that the United States Department of Labor had designated a certain chiropractic school "as an immigrant school." By virtue of that designation, it was stated that aliens "will be allowed to enter the country without regard to quota, when enrolled at this school." Investigation showed that, even before this was reported, the Secretary of Labor had put the seal of approval of the United States government on ten other chiropractic schools for alien students. Such approval was apparently within his lawful discretion under the Immigration Act of 1924 if these schools were "accredited" schools, but otherwise not. The Immigration Act of 1924 defines the term "non-quota immigrant" as "an immigrant who is a bona fide student at least 15 years of age and who seeks to enter the United States solely for the purpose of study at an accredited school, college, academy, seminary, or university, particularly designated by him, and approved by the Secretary of Labor, which shall have agreed to report to the Secretary of Labor the termination of attendance of each immigrant student, and if any such institution of learning fails to make such reports promptly, the approval shall be withdrawn."

A circular of information, issued by the Department of Labor, Aug. 12, 1924, defined an approved school as "any accredited school, college, academy, seminary, or university which has been established for at least two years, and which has applied for and received the approval of the Secretary of Labor as a school for immigrant students. When a school is approved, the Department of State informs all American consular offices, and until so advised consular officers are not in a position to consider an intending student's application for a non-quota immigration visa." According to this circular of information, it is required by the Department of Labor that a non-quota immigrant shall regularly attend the school to which he has been admitted, and that if he fails, neglects, or refuses to maintain the status of a bona fide student, or if he is expelled, or if he engages in any business or occupation for profit, or if he labors for hire, he shall be deemed to have abandoned his status as an immigrant student and shall, on the warrant of the Secretary of Labor, be taken into custody and deported.

Chiropractic schools apparently were not slow to realize the advertising value of "approval" by the Secretary of Labor. "Approval" of a school means registration of that school in every United States consular office throughout the world as an institution of learning approved by the United States government. Although the Immigration Act of 1924 was not enacted until May 26 of that year, four of the known chiropractic schools in the United States had been approved by the Secretary of Labor before the end of the year and six more within the next six months, subsequent to which, one additional chiropractic school is known to have been approved.

Inquiry of the Department of Labor failed to show that any investigation was made of the plants and equipment of schools approved, or that any effort was made to check up by independent investigation the claims in their several applications for approval; nor, so far as available information shows, had any effort been made to see that the provisions of the law were duly complied with by school or student after approval. Inquiry as to the basis on which the Secretary of Labor determined whether a given school was or was not within the accredited schools developed the fact that the Department of Labor "has never definitely defined the term, and the application for approval of each school is considered separately and decided upon the showing made in its petition."

The situation here described seems deplorable, both from the standpoint of immigration and from the standpoint of education. Apparently, American schools teaching bizarre methods of healing can obtain the approval of the United States government without any difficulty, and that without any worth while inquiry into their fitness for teaching even the dogmas they profess. Such schools are then advertised by the government itself by registration with its consular officers throughout the world, and a school can then supplement that advertising by announcing itself as a school approved by the United States government. The result of all this will be that ambitious but ignorant foreigners, relying on the approval of the government, will come to the United States to study even the most arrant species of quackery, and, likely as not, may be duped in the process. It would seem that so long as the United States government continues to give approval to so-called institutions of learning so carelessly as it is now doing, we need not be surprised if American education and educators should fail to rise in the esteem of the nations of the world. It would appear to have been the part of wisdom for the Department of Labor to postpone approval of schools for the admission of alien students until adequate provision had been made for educational advisers who could investigate the claims of schools seeking approval, through competent inspectors; who could determine whether or not approved schools lived up to the requirements, and whether or not students who entered conformed to the conditions of entry. Even now it would appear to be wise for the Department of Labor to see whether approval was given after adequate investigation. This matter is submitted to the House of Delegates for consideration.

MEDICAL DEFENSE

The Bureau of Legal Medicine and Legislation has continued its studies of the prevalence and causes of claims and suits against physicians because of alleged malpractice and of the methods adopted by constituent state associations for the prevention and adjustment of such claims. The result of a study of the activities by the several associations during the year 1924 was published in the Bulletin for November, 1925. Studies are being made of the by-laws of the constituent state associations governing this matter as well as of group insurance policies issued by various indemnity companies. The results of these studies will be published from time to time as data in hand warrant, and it is hoped that these will be of value in aiding state associations to profit by the experiences of one another, and that they will also contribute toward the development of more or less standard methods of procedure.

It cannot be too strongly insisted that the prevention of claims based on alleged malpractice is the objective sought, and not merely the adjustment of such claims as arise or the indemnification of physicians against loss. Losses to the profession are equally great, whether a claim or judgment be paid by the physician or by the insurance company, and as claims increase, losses to the profession will also increase. If a claim or judgment is settled by the physician, he alone is the loser; if settled by the indemnity company, the profession as a whole—or at least the indemnified members of it—is the loser, losing not only the amount paid the claimant, but also the expenses of operation of the insurance company, together with such profits as the company earns on business of this class.

THE CULTS AND HOSPITALS

Inquiries from various sources indicate a determined effort on the part of sectarian practitioners to force their way into hospitals on an equal footing with physicians. Such effort has been made in California, Idaho, Michigan, Nebraska, New York and Wisconsin, based on claims of right under existing law, and in other states efforts have been made to gain admission to hospitals through legislation. Such legislation has attempted to penalize hospitals denying admission to sectarian practitioners, either by depriving them of state funds, if they are in receipt of any such funds, or by denying them the right of exemption from taxation as charitable institutions. This situation merits the closest attention by our state and county organizations. The presence of sectarian practitioners in regular hospitals would constitute a disturbing element tending to destroy discipline among interns and nurses, and to create dissatisfaction among patients. The attitude of cultists toward infection would tend to spread communicable diseases in hospitals. Every effort should be made, therefore, to prevent the accomplishment of the ends now being sought by them.

FEDERAL LEGISLATION

Congress enacted no legislation during the past year in which the profession was particularly interested. The one measure in which the American Medical Association was interested, designed to throw proper safeguards around the sale and use of concentrated lye, failed passage and was left in committee when the Sixty-Eighth Congress expired.

Many bills have been introduced into the Sixty-Ninth Congress and are still pending as this report is prepared. These include the proposed new revenue act, many bills to amend the National Prohibition Act, a bill to regulate interstate and foreign commerce in clinical thermometers, as well as bills which have already been referred to in this report and numerous others.

STATE LEGISLATION

Forty-two state legislatures were in session during 1925, and many bills affecting the interest of the medical profession and the public health were introduced. The Bureau of Legal Medicine and Legislation has been ready at all times to give assistance and advice to constituent state associations with reference to matters of legislation. It has done so whenever called on and has even volunteered when circumstances have come to its notice seeming to justify such action. Its activities have been handicapped, and its resources have remained to a regrettable extent unused, because of the apathy of some state associations and because of the inadequate legislative organization of some others. No constitutent state association can adequately keep in touch with legislation pending unless it obtains copies of all bills introduced that have or may have a bearing on matters of interest to the profession. No state association can adequately support or attack proposed legislation unless it knows what the experience of other states has been with reference to similar measures. Without a current record of all legislative activities kept in some central office, no state association can ordinarily find out what the experience of other states has been in time for the information to be of practical value. The Bureau of Legal Medicine and Legislation is a central office in which the experiences of state associations should be recorded and through which such experiences should be made available to other states, but the bureau cannot serve in that capacity unless all state associations cooperate and file with the bureau copies of bills introduced in their respective legislatures, together with pertinent reports concerning them. When it is realized that legislation enacted in any state may be used as a precedent from which to argue for the enactment of similar legislation in other states, we can better appreciate the extent of our responsibilities for the character of legislation enacted within our respective state legislatures.

LYE LEGISLATION

The bill to regulate interstate and foreign commerce in lye and other dangerous caustics was still pending in committee when the Sixty-Eighth Congress expired. It has been introduced into the present congress, and its enactment into law is hoped for. The aid of state associations and county societies is solicited to the end that this may be accomplished. Laws patterned after the model bill approved by the Committee on Lye Legislation were adopted in Colorado, Minnesota, Nevada, New Hampshire, Oregon and Vermont during 1925. In West Virginia a law differing materially from the model law and from all other laws regulating the sale of lye was enacted, under which the special labeling of all lye in packages suitable for household use is required. Special labels must now be prepared for Florida, Louisiana and West Virginia. Four kinds of labels are required for such packages, depending on the destination of the package. This adds to the cost of lye and other caustics to the consumer, because packers and distributers of such articles are required to label their respective stocks in various ways to meet the demands of various states. There are other important objections to having different requirements in different states. The label prescribed by the model bill has been carefully prepared and seems to meet the requirements of more states than any other label. It is the label, too, that is prescribed in pending federal legislation. It is earnestly hoped that states that may hereafter seek legislation to limit the distribution of lye and other caustics in packages suitable for household use will make the labels and procedures required to conform to the labels and procedures laid down in the model law and in the federal law. It is hoped, too, that states that have already adopted labels will adopt the federal law so as to make the standard label suffice for all. This seems to be due the manufacturers, packers and distributers of lye and other caustics, who have cooperated very earnestly with the American Medical Association in drafting legislation and in promoting its enactment.

COMPENSATION FOR EYE INJURIES

To make effective the standard methods for determining compensation for eye injuries, adopted by the House of Delegates last year, the Bureau of Legal Medicine and Legislation sent a copy to every state workmen's compensation board and to every insurance company engaged in casualty or in workmen's compensation insurance. A considerable number of requests have been received for additional copies, showing a widespread interest in the report of the committee. Up to this time no criticisms have come to the attention of the bureau.

SPECIAL PRIVILEGES FOR PHYSICIANS OPERATING MOTOR VEHICLES

Because of an inquiry received from the Medical Society of the District of Columbia concerning special privileges under traffic regulations for physicians using automobiles, an effort was made to ascertain the views of every state association to determine what local practices were. A summary of replies received was published in the BULLETIN for October, 1925, which shows no such uniformity of opinion as to justify action by the American Medical Association on a nationwide basis. It may be easily deduced from replies received that traffic conditions and the moods of traffic officers vary so widely in various places that each state association, and possibly each county society, must handle the traffic problem as a local one.

ZINC STEARATE

The committee appointed by the Board of Trustees to advise with respect to action that should be taken to prevent injury and deaths from the use of zinc stearate dusting powders held one meeting during the year, at which representatives of certain manufacturers, including the makers and sellers of powders and the makers of containers, were present. While the commercial interests named reported that they were making efforts to find some practical way to limit or prevent accidents, there was no satisfactory evidence of progress. The committee, however, agreed to certain features of a container for zinc stearate dusting powders as essential. These are: (1) that the container may be made wholly of metal; (2) that it be closed by a firmly attached metal cover; (3) that such metal cover shall have orifices as small as compatible with a reasonable discharge of powder; (4) that the metal cover be provided with a self-closing device which may be kept open only by a positive pressure, and (5) that the container have a prominent and clear precautionary statement advising that the package be kept away from infants and young children.

The Illinois State Health Department has issued preliminary announcement of its intention to promulgate regulations to put the foregoing requirements into effect, with certain specific restrictions.

As zinc stearate is practically a household commodity; the adoption of a suitable container and the observation of protective rules should be made by dispensers of zinc stearate powders in order to mitigate hazard to infant life. In addition to this, however, the committee feels that the use of zinc stearate should be discouraged by the medical profession, as evidenced by the replies of thirty-five leading pediatricians to a questionnaire submitted to them.

Publication of Important Measures in Advance of Annual Session

The following resolution was presented, on recommendation of the President and of the Speaker of the House, by the Reference Committee on Reports of Officers at the Atlantic City Session, and was referred to the Board of Trustees:

> *Resolved,* That all reports of officers, Councils or standing committees of this Association, and all resolutions dealing with questions of policy of the Association, shall be filed with the Secretary of the Association sixty days in advance of the annual session of this House, published in the BULLETIN and mailed to every delegate at least thirty days before the annual session at which such resolutions or reports are to be considered.

Believing that the carrying out of the provisions of this resolution would result in more careful consideration being given to official reports and to resolutions dealing with questions of Association policy, the Board of Trustees has directed that reports should be printed in the BULLETIN or in THE JOURNAL thirty days before the annual session; that the attention of members of the House of Delegates should be called to the resolution, and that they be requested to submit resolutions or memorials bearing on matters of policy to the Secretary of the Association sixty days before an annual session, and that such resolutions or memorials as might come into the hands of the Secretary shall be printed in the BULLETIN or in THE JOURNAL within thirty days thereafter.

Terms of Service of Members of the Council on Medical Education and Hospitals

The House of Delegates authorized the Board of Trustees to fix the terms of service of members of the Council on Medical Education and Hospitals who were not elected to serve for definite terms. Complying with these instructions, the Board of Trustees has fixed the term of Dr. Ray Lyman Wilbur at seven years; of Dr. Walter F. Donaldson, six years; and of Dr. Louis B. Wilson, five years. It recommends that the term of service of members elected to this council in the future be seven years.

Listing of Names of Physicians in Telephone Directories

The House of Delegates at the Atlantic City Session adopted resolutions submitted by Dr. Wells Teachnor, Ohio, providing that a request be made of the American Bell Telephone Company to establish the heading "Physicians and Surgeons M.D." for classified lists of physicians in telephone directories. These resolutions were modified by the House of Delegates to include companies affiliated with the American Telephone and Telegraph Company, as well as other telephone companies.

The Secretary of the Association communicated with the American Telephone and Telegraph Company and had one conference with one of its official representatives. The company signified its willingness to use the heading suggested for classified lists, but pointed out that it would be necessary to take the matter up with each individual telephone company, some of which have agreed to adopt the proposal. While these negotiations were in progress, it was ascertained that in some instances at least classified lists were considered as somewhat in the nature of advertising and that probably in some instances were made a source of revenue to telephone companies. It was also ascertained that some county medical societies are opposed to the publication of classified lists of physicians.

In view of these facts, the matter has not been further vigorously prosecuted, but the American Telephone and Telegraph Company has been urged to adopt, and to promote the general adoption of, the heading suggested in the resolutions referred to above for all classified lists of physicians in telephone directories.

Gorgas Memorial

At a meeting of the Board of Trustees held at Atlantic City during the annual session in 1925, Dr. Arthur T. McCormack, representing the Gorgas Memorial Institute of Tropical and Preventive Medicine, Inc., appeared before the Board of Trustees and suggested that the Trustees of the American Medical Association be represented on the executive board of the Gorgas Memorial Institute. He stated that it was proposed to have three members of the Board of Trustees on the executive board of the Gorgas Memorial Institute, which was to be composed of nine men, to be responsible for the conduct of the organization; that the work of the Gorgas Memorial Institute involved primarily the building of an institute for the study of tropical diseases in Panama, and the promotion by every means possible, including particularly widespread publicity, of periodic physical examinations in this country.

On August 28, a letter was addressed to each member of the Board of Trustees by Dr. Franklin Martin, chairman of the executive committee of the Gorgas Memorial Institute of Tropical and Preventive Medicine, Inc., with which was enclosed a copy of a proposed revision of the by-laws of that organization providing for additions to its board of directors. The proposed amendment provided for a board of directors, forty-five in number, to consist of two groups, elected directors and related directors, and that the elected directors should be thirty in number and should be chosen in the manner set forth in the by-laws. The related directors provided for were to be fifteen in number, were to serve as members of the board during their tenure of office in their respective organizations, and were to have equal power and voting rights with elected directors. The proposed amendment specifically provided that the President, the Chairman of the Board of Trustees and the Speaker of the House of Delegates of the American Medical Association should serve as "related" directors of the Gorgas Memorial Institute of Tropical and Preventive Medicine, Inc.

At the meeting of the Board of Trustees held in September, 1925, Dr. Arthur T. McCormack again appeared before the Board and presented the plan outlined in the communication of Dr. Martin and in the proposed amendment of the by-laws of the Gorgas Memorial Institute. After having heard Dr. McCormack and having considered the communication of Dr. Martin, the Board of Trustees referred the whole matter to a special committee to report at the regular meeting of the Board in November, 1925. At that meeting this committee reported as follows:

"The arguments presented to the Board of Trustees relative to the Gorgas Memorial Institute of Tropical and Preventive Medicine, Incorporated, confirm and emphasize the position taken by your committee.

"The proposition to give to the American Medical Association representation on one of two boards of directors, the functions of neither being accurately defined, a specific designation of three officers of the American Medical Association to such a board, without power of choice by the Board of Trustees or the House of Delegates of the Association itself, are actions which this committee cannot, and which this Board should not, approve. The House of Delegates of the American Medical Association approved a proposition to establish an Institute of Tropical Medicine in Panama and the solicitation of funds for that purpose only. The Board of Trustees of this Association has already gone on record as being directly opposed to the solicitation of funds for a vast scheme of public health education by a separately constituted organization, such as the Gorgas Memorial, which unnecessarily duplicates and usurps work already being done by the established bureaus and publications of the American Medical Association and by other organizations such as are included in the National Health Council. Such a movement would make more difficult the task of the American Medical Association to insure for the public publicity for scientific medicine that is well controlled and safe. The great dangers of uncontrolled publicity for medical affairs have been emphasized to this Board.

"The establishment of the Gorgas Memorial Institute of Tropical and Preventive Medicine, Incorporated, would seem to create a new organization for conducting work already fully controlled by established medical bodies. It would be apparent from the efforts that are being made to secure the cooperation of the constituent parts of the American Medical Association in the creation of the Gorgas Memorial that its directorate finds the endorsement of the American Medical Association absolutely necessary to its success. Nevertheless, the directorate of the Gorgas Memorial has persisted constantly in its campaign and in its work without attempting to confer on the American Medical Association the leadership in this work that is its right by the fact that only one body—the American Medical Association—actually represents all of the physicians of the country, and that through this body only can physicians of the United States be united in support of any public health endeavor. The arbitrary assignment of three specifically designated members on a directorate of forty-five, and the election of such directors to such positions without first securing the consent of the American Medical Association to membership in the movement, may be taken as an indication of the manner in which the affairs of the Gorgas Memorial are conducted.

"Under these circumstances, your committee recommends to the Board of Trustees of the American Medical Association that the proposition of the Gorgas Memorial, as submitted, be not accepted, and that the statement of this committee be sent to the directors of that body as a representation of our position in the matter."

This report was adopted by the Board of Trustees.

Lack of Uniformity in Reporting Deaths in the Puerperal State

At the Chicago Session in 1924, Dr. C. E. Mongan, Massachusetts, introduced a resolution providing that the American Medical Association "memorialize the Director of the Census Bureau to the end that the Director of the Census Bureau request the several states of the United States to follow the method, under the International Classification of Diseases, adopted by the Registrar-General of England and Wales, in reporting mortality rates in the puerperal state." The reference committee to which this resolution was referred recommended that the resolution be referred to the Board of Trustees with the request that inquiry should be made into the methods of recording and analyzing statistics of death incident to childbirth, and to take such action as may be necessary to make them represent truly the mortality from this cause.

At the request of the Board of Trustees, the Secretary of the Association communicated with the Vital Statistics Department of the Bureau of the Census, which replied that death certificates from all parts of the registration area are edited in a uniform way and that the rates of one state are therefore comparable with those of another state. It was pointed out that if the bureaus of vital statistics of the various states would follow the methods outlined in the Manual of the International List of Causes of Death and in the Joint Cause Manual, very close agreement would result between the figures compiled by state officers and those compiled by the Bureau of the Census, but that when international comparisons are made, serious difficulties are encountered, due to conflicting provisions of laws in effect in various countries. In Switzerland, for example, an excellent method of secret certification is in effect, which permits the physician to certify with the utmost accuracy and prevents any knowledge of the physician's certificate being secured by any outside party. This method of certification, however, is not in effect in other countries, in some of which necropsies are more frequent than in others. It appears, too, that in some countries a much greater proportion of death certificates are certified by physicians than in others. Methods of securing and of editing death returns in England and Wales and those found in use elsewhere were defined in the statement of the Bureau of the Census, in which it was pointed out that to adopt the English method simply because it produces a lower rate than some other methods would be unsound practice.

Other difficulties were pointed out in the communication received from the Bureau of the Census, but it was stated that a good start had already been made in the discussion of these matters, and that there is good reason to believe that international agreement will eventually be reached.

As the Bureau of the Census has indicated that discussion of the matters referred to in the Mongan resolution is being carried on between the United States and other countries, the Board of Trustees has not pursued this matter further.

Full-Time Representative in Washington

The Reference Committee on Legislation and Public Relations, in its report presented at the Atlantic City Session, urged that the Board of Trustees establish a full-time representative of the Association in Washington, and the House of Delegates adopted the report. At the meeting of the Board of Trustees held, Sept. 4, 1925, this matter was very carefully considered, after having been first considered by the Executive Committee of the Board at a regular meeting held, July 3, 1925. In this discussion it was brought out that, according to their own statements, certain individual members of the House of Delegates had supported the report of the reference committee because they were not advised that the Association already had connections in Washington through which information could be gathered and contacts established for the purpose of safeguarding the interests of the medical profession as they might be affected through legislation. It was further brought out by members of the Board of Trustees who were familiar with the facts that previous experience had clearly demonstrated the inadvisability of maintaining full-time representation at the national capital. The Board of Trustees, having devoted its best thought to various factors involved, has arrived at the unanimous conclusion that it will not be in the best interests of the Association to carry out the suggestions of the Reference Committee offered at Atlantic City.

Affiliation with National Health Council

At a special meeting of the Board of Trustees held during the annual session in Atlantic City, Dr. Wendell C. Phillips, President-Elect, informed the Board that it was the desire of officers of the National Health Council to cooperate fully with the American Medical Association.

Dr. A. J. Lanza, Secretary of the National Health Council, appeared before the Board of Trustees at its meeting held in September, 1925, and presented a plan providing for the active affiliation of the American Medical Association with the National Health Council. This was referred to a special committee of the Board of Trustees with instructions to report at its November meeting. This committee recommended that the Board of Trustees notify the directors of the National Health Council that the Board would give careful consideration to a definite proposal which would involve active cooperation of the American Medical Association in the work of that council and which would insure the Association proper representation in proportion to its membership and influence in public health affairs. The recommendation of this committee was adopted, and the National Health Council was notified accordingly.

Council on Physical Therapy

Pursuant to the resolution offered by Dr. Joseph F. Smith, Wisconsin, and adopted by the House of Delegates at the Atlantic City Session, a Council on Physical Therapy was appointed at the September meeting of the Board of Trustees, with the following named members:

PHYSICISTS

Dr. W. R. Bovie, assistant professor of biophysics, Harvard University.
Dr. Arthur Compton, professor of physics, University of Chicago.

CLINICIANS

Dr. Ralph Pemberton, Philadelphia.
Dr. Harry E. Mock, Chicago.
Dr. George Miller McKee, New York.
Dr. A. U. Desjardins, Rochester, Minn.

PHYSIOLOGIST

Dr. W. B. Cannon, professor of physiology, Harvard Medical School.

PATHOLOGISTS

Dr. A. S. Warthin, department of pathology, University of Michigan.
Dr. Francis Carter Wood, New York.

This council met and effected temporary organization, October 16, and appointed committees to outline methods of procedure to be followed by the council. At a second meeting, held in January, 1926, progress was made toward permanent organization, and the council will be engaged in the discharge of the duties imposed on it within a reasonable time. It is believed that through this council a great deal can be accomplished for the standardization of physical therapeutic methods and appliances, and that the interests of the medical profession and of the public will be safeguarded and promoted. It is unfortunately true that physical therapy has fallen largely into the hands of enthusiasts and faddists and, to an undue extent, into the hands of those who are not far removed from the status of quacks. More and more, however, qualified physicians, following the lead of a few conservative investigators and practitioners, are turning their attention to this field and are persistently striving to put physical therapeutics on a rational, scientific basis. The character of the men who compose the newly established Council on Physical Therapy is a guarantee to the medical profession and to the public that the work of this council will be done fairly, fearlessly, and in a thoroughly scientific manner.

Building and Equipment

The building of the Association has been maintained in the best possible manner, and necessary repairs and improvements have been made as required in the older part. These have included the substitution of concrete for the wooden floor in the basement, additional storm sewer connections to care for surface water, and increased sewage disposal facilities.

The equipment of the mechanical department, as well as of the office equipment has been maintained in keeping with former high standards. A new sixty-four page press—the largest the Association ever has owned—has been installed, and other equipment needed to meet increased demands made on the printing department has been added as necessary.

Business Affairs of the Association

As will be seen from reports of the Treasurer and the Auditors, printed as addenda to this report, the financial situation of the Association is altogether satisfactory. Considerable economies were effected during the past year, which resulted in material savings. On the other hand, the work of practically every department of the Association was expanded, and effort has been made to meet all reasonable demands that could be complied with on a practical basis.

The record of work accomplished during the past year by the administrative personnel of the Association is one which reflects the loyalty, efficiency and devotion of the more than three hundred persons who comprise the working forces at Association headquarters.

E. B. Heckel, Chairman.
J. H. Walsh, Secretary.
Charles W. Richardson.
J. H. J. Upham.
Thomas McDavitt.
A. R. Mitchell.
D. Chester Brown.
E. H. Cary.
J. A. Pettit.

ADDENDA TO REPORT OF BOARD OF TRUSTEES

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ending December 31, 1925

Reserve and Surplus as at Dec. 31, 1924	$387,468.05	
Less Matured Bonds	35,000.00	
	$352,468.05	
Bonds Purchased (Cost)	72,594.00	
Total Investments at Cost		$425,062.05
Balance for Investment Dec. 31, 1924	$ 25,808.44	
Matured Bond Sales	35,000.00	
Transfer from General Office	2,135.76	
Interest on Investments	16,735.25	
Interest on Bank Balance	442.41	
	$ 80,121.86	
Less Bonds Purchased	72,594.00	
Balance in Bank		7,527.86
Reserve and Surplus as at Dec. 31, 1925		$432,589.91

DAVIS MEMORIAL FUND

Bonds (at cost) as at Dec. 31, 1924		$ 3,708.25
Bank Balance Dec. 31, 1924	$872.88	
1925 Interest on Bonds	170.00	
1925 Interest on Bank Balance	28.89	1,071.77
Total Fund as at December 31, 1925		$4,780.02

Austin A. Hayden, Treasurer.

AUDITOR'S REPORT

Chicago, January 13, 1926.

To the Board of Trustees,
American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association, for the year ended December 31, 1925, and have prepared therefrom and append hereto the statements undermentioned:

Exhibit "A"—Balance Sheet, as at December 31, 1925.
Exhibit "B"—Income Account for the year ended December 31, 1925.
Schedule "1"—Journal Operating Expenses.
Schedule "2"—Association and Miscellaneous Expenses.

We certify, subject to the undernoted comment, that the Balance Sheet and Income Account correctly present, in our opinion, the financial position of the Association as at December 31, 1925, and the results of its operations for the year ended on that date.

The cash and bank balances and securities have been verified by count or inspection or by certificates obtained from the depositories.

The charges to the property and equipment account during the year represent actual additions and improvements. The expenditure thereon, $21,565.77, has been made out of the floating assests of the Association. Depreciation written off during the year appears to be adequate.

No provision has been made for accrued interest and taxes, nor for memberships and subscriptions due and unpaid. With regard to "Journal" subscriptions paid in advance, this element is represented on the Balance Sheet by a sum of $52,975.74, which sum, however, was not determined as the result of an exact computation. It is composed of collections made during the month of December, 1925, which apply to the year 1926 and does not include any proportion of collections received prior to the month stated which cover issues to be delivered in 1926.

No depreciation was taken on metal as it was found on taking an inventory that the inventory value of metal was in excess of the book value thereof.

During the course of the audit we made an exhaustive test of the various sources of income and verified the expenditures against properly approved vouchers on file. We have pleasure in reporting that the accounts are well and accurately maintained.

Yours truly,
Peat, Marwick, Mitchell & Co.

EXHIBIT "A"

Balance Sheet as at December 31, 1925

Assets:			
Property and Equipment (at Cost, less Depreciation):			
Real Estate and Buildings			$ 685,046.23
Machinery			124,260.74
Type and Metal			11,643.20
Furniture and Equipment			46,880.52
Chemical Laboratory			3,572.72
Library			575.32
Total Property and Equipment			$ 871,978.73
Investments (at cost):			
U. S. Government Securities		$233,541.55	
Railroad and Municipal Bonds		191,520.50	$425,062.05
Cash held by Treasurer for Investment			$ 7,527.86
Cash in Bank and on Hand—General Account			110,044.45
Temporary Investments—Certificates of Deposit			160,000.00
Notes Receivable			783.00
Accounts Receivable:			
Advertising		$ 60,273.11	
Co-operative Medical Advertising Bureau		11,461.94	
Directory		8,580.00	
Reprints		4,267.85	
Miscellaneous		12,742.17	$97,325.07
Inventories of Materials, Supplies and Work in Progress			$ 69,756.58
Expenditure on Publications in Progress			39,394.78
Prepaid Expenses—Insurance, etc			2,482.76
Total			$1,784,355.28
Liabilities:			
Accounts Payable:			
Co-operative Medical Advertising Bureau			$ 10,244.59
Purchase of New Equipment			36,000.00
Miscellaneous			3,370.04
			$ 49,614.63
Subscriptions Paid in Advance			52,975.74
Advance Payments on Publications			89,127.02
Net Worth:			
Association Reserve Fund		$ 250,000.00	
Capital Account:			
Amount thereof as at December 31, 1924	$1,132,793.22		
Net Income for the year ended December 31, 1925	209,844.67	1,342,637.89	
Net Worth as at December 31, 1925			$1,592,637.89
Total			$1,784,355.28

EXHIBIT "B"

INCOME ACCOUNT

For the Year Ended December 31, 1925

Journal:		
Gross Earnings:		
Fellowship Dues and Subscriptions		$ 435,581.42
Advertising		679,864.21
Jobbing		59,199.19
Reprints		9,410.64
Books		12,241.56
Insignia		11,318.61
Miscellaneous Sales		10,593.44
Interest		3,820.64
Gross Earnings from Journal		$1,222,029.71
Operating Expenses—Schedule "1"		810,468.17
Net Earnings from Journal		$ 411,561.54
Miscellaneous Income:		
Rents	$ 1,740.00	
Sundry Publications	24,886.06	
Co-operative Medical Advertising Bureau	1,560.98	28,187.04
Association Income:		
Income from Investments	$ 16,752.66	
Income from Other Sources	10,483.87	27,236.53
Gross Income		$ 466,985.11
Association Expenses—Schedule "2"	$166,264.70	
Miscellaneous Expenses—Schedule "2"	90,875.74	257,140.44
Net Income		$ 209,844.67

SCHEDULE "1"

JOURNAL OPERATING EXPENSES

For the Year Ended December 31, 1925

Wages and Salaries	$354,773.56
Editorial, News and Reporting	11,596.71
Paper—Journal Stock	241,247.15
Paper—Miscellaneous	7,046.14
Electrotypes and Engravings	17,939.02
Binding	899.45
Ink	6,389.59
Postage—First Class	26,438.38
Postage—Second Class	46,035.51
Journal Commissions	7,517.14
Collection Commissions	1,183.97
Discounts	18,953.34
Express and Cartage	4,207.72

Exchange			2,939.32
Office Supplies			2,607.10
Telephone and Telegraph			2,102.98
Office Jobbing			8,390.72
Power and Light			6,010.08
Factory Supplies			10,130.99
Repairs and Renewals—Machinery			4,756.13
Losses on Bad Debts			1,744.52
Miscellaneous Operating Expenses			13,282.73
			$796,192.25
Depreciation on Equipment:			
Machinery	10%	$8,650.50	
Furniture and Equipment	10%	3,608.36	
Factory Equipment	10%	1,600.58	
Type	10%	416.48	14,275.92
Total Journal Operating Expenses			$810,468.17

SCHEDULE "2"

ASSOCIATION AND MISCELLANEOUS EXPENSES

For the Year Ended December 31, 1925

Association Expenses:	
Association	$ 57,188.14
Health and Public Instruction	10,411.71
Pharmacy and Chemistry	14,469.79
Chemical Laboratory	14,145.65
Medical Education and Hospitals	30,573.53
Organization and Field Secretary	2,876.97
Therapeutic Research	871.59
Legal Medicine and Legislation	16,845.59
Bureau of Investigation	17,880.12
Physical Therapy	604.64
Laboratory Depreciation—10%	396.97
Total Association Expenses	$166,264.70
Miscellaneous Expenses:	
Insurance and Taxes	$ 17,762.83
Legal and Investigating	1,167.25
Building Expense	25,007.72
Sundry Publications	29,269.20
Building Depreciation—2%	12,055.89
Library Depreciation—10%	63.93
Fuel	5,548.92
Total Miscellaneous Expenses	$ 90,875.74

REPORT OF COMMITTEE ON SCIENTIFIC RESEARCH

NEW GRANTS

Since the last report, the following grants have been made:

Grant 76: $500 to Harry L. Huber, University of Chicago, for aid in a study of the chemistry of pollens and the chemical elements concerned in hay-fever and similar processes.

Grant 77: $500 to Arthur W. Yudkin, New Haven, Conn., toward an experimental study in the laboratories of Yale University of the formation of cataract and related ocular changes.

Grant 78: $400 to A. W. Meyer, Stanford University, to support study of polyneuritis caused by special diet.

Grant 79: $100 to Margaret S. Hoskins, University of Arkansas (now in the department of anatomy of the college of dentistry in the New York University) toward a study of the effect of thyroxin on animal growth.

Grant 80: $200 to Charles E. Simon, School of Hygiene and Public Health, John Hopkins University, to aid work on experimental measles, for which purpose grant 67, $100, and grant 73, $200, were made previously.

Grant 81: $100 to William G. Lennox, Harvard Medical School, for experimental study of epilepsy.

Grant 82: $200 to Victor Burke, department of bacteriology, State College of Washington, for investigation of the value of dye treatment of infections, for which purpose grant 75, $200, was made in 1924.

All these grants have been paid in full except grant 77, one half of which is unpaid, and in each case satisfactory work is in progress.

STATUS OF WORK

The status of work pending under new and previous grants is summarized briefly as follows:

Grant 39: $1,000 to E. O. Jordan, University of Chicago, for review of the literature on the influenza epidemics of 1918 and 1919, with synopsis of the results of value. This important work, undertaken at the invitation of the committee on the recommendation of Dr. George H. Simmons, is undergoing final revision for publication in book form. It is estimated that the cost of publishing 1,000 copies will be $2,000, which, no doubt, will be repaid in large measure from sales.

Grant 52: $400 to William H. Welker, University of Illinois, for chemical study of bacterial proteins. The results of the work under this grant are now in course of publication.

Grant 53: $300 to F. P. Underhill, Yale University, for the study of metabolism of inorganic salts. Results of the work under this grant have been published in the *Journal of Biological Chemistry,* and further publications may be expected. Of this grant, $270 was used to buy platinum crucibles, which remain the property of the American Medical Association.

Grants 55, 63 and 70: $600 in all to R. A. Spaeth, School of Hygiene and Public Health, Johns Hopkins University, to aid in a study of the influence of fatigue on infection. The results of this work have been published in the *American Journal of Hygiene.* Dr. Spaeth assumed the professorship of physiology in Chulalangkorn University in Siam, where he unfortunately died last spring from an infection contracted while on an expedition to collect materials for investigation.

Grants 57 and 61: $369.46 to Yandell Henderson, Yale University, for a kymograph. According to the rules, this instrument is the property of the Association, and a brass plate on the instrument so states. Several articles on the results of studies in which this instrument was used have been published.

Grant 62: $150 to A. C. Ivy, University of Chicago (now of Northwestern University), for study of the effect of amino-acids and amines on gastric secretion. This work has been completed and the results have been published.

Grant 64: $200 to E. R. LeCount, Rush Medical College, for work on tuberculosis and mitral diseases. This work is completed and part of the results have been published. The final publication will be made in the near future.

Grant 69: $400 to Linda B. Lange, School of Hygiene and Public Health, Johns Hopkins University, for an investigation of the rôle of diet in experimental tuberculosis. The work is well under way.

Grant 71: $400 to H. M. Evans, University of California, for work on the hormones of the hypophysis. The results of this work have been published in connection with Dr. Evans' Harvey Lecture in New York in 1924.

Grant 72: $250 to V. G. Jacobson, Albany Medical School, for experimental study of so-called implantation adenomas of the pelvic organs. This work has been completed and the results will be published in the February, 1926, issue of the Archives of Pathology and Laboratory Medicine. Full account of the expenses has been made.

Grant 74: $300 to Thomas Addis, Stanford University, for work on compensatory renal hypertrophy. This work is in progress; preliminary reports of the results have been made; the final results will be published in a few months.

Grants 75 and 82: $200 each to Victor Burke, State College of Washington, for study of the effect of dyes in the treatment of infections. The results of the work in 1924 (grant 75) are about to be published; the work under grant 82 is well under way.

Grant 76: $500 to Harry L. Huber, University of Chicago, for the study of the chemistry of pollens and of chemical elements concerned in hay-fever and allied diseases. Active work is in progress.

Grant 77: $500 to Arthur M. Yudkin, New Haven, for experimental investigation of cataract and related ocular changes. An extensive study has been made of aqueous humor, the results of which the grantee proposes to present at the Dallas session.

Grant 78: $400 to A. W. Meyer, Stanford University, for study of polyneuritis from deficient diet. Interesting results are reported. The work is in progress.

Grant 79: $100 to Margaret M. Hoskins, New York University, for study of the effect of thyroxin on animal growth. This work is progressing satisfactorily, and the results will be ready for publication before long.

Grant 80: $200 to Charles E. Simon, School of Public Health, Johns Hopkins University, for work on experimental measles. Owing to the lack of suitable measles material, the work under this grant at present deals with Gye's claim that cancer is due to a filtrable virus in the presence of a substance supposedly specific for the animal species in question.

Grant 81: $100 to William G. Lennox, Harvard Medical School, for work on epilepsy. The work under this grant appears to be progressing satisfactorily.

Financial Statement for 1925

Balance to credit of committee, Jan. 1, 1925	$ 656.32	
Appropriation for 1925	2,000.00	
		$2,656.32
Grants Paid in 1925		
Grant 39, E. O. Jordan, balance	$ 400.00	
Grant 76, H. L. Huber	500.00	
Grant 77, A. W. Yudkin, one half	250.00	
Grant 78, A. W. Meyer	400.00	
Grant 79, M. S. Hoskins	100.00	
Grant 80, C. E. Simon	200.00	
Grant 81, W. G. Lennox	100.00	
Grant 82, Victor Burke (Washington State College)	200.00	
		$2,150.00
Balance to credit of committee		$ 506.32
Grant 77, A. W. Yudkin, unpaid balance		250.00
Unallotted balance		$ 256.32

APPLICATIONS ON HAND

A number of applications for grants are now being considered by the committee. Some of these are sought for the purposes of studies that are thought to be of great importance.

RECOMMENDATIONS

1. That the report of Dr. E. O. Jordan under grant 39 on the literature of the recent influenza epidemics be published in book form by the American Medical Association. The cost is estimated at about $2,000.

2. That provision be made for grants in aid of medical research on a larger scale than heretofore.

The applications now on hand, most of which may be regarded as meritorious, call for more than $12,000 for next year If in certain cases annual grants of from $1,500 to $2,500 could be made, that in effect would be equivalent to *fellowships in research.* If the committee is charged with the administration of larger grants, it would seem desirable that no award be made unless first approved by the Board of Trustees on the basis of report and recommendations by the committee.

3. That provision be made for at least one annual meeting of the committee as well as for the clerical assistance necessary for the proper discharge of its responsibilities.

On the basis of applications on hand and the foregoing recommendations 2 and 3, the committee submits the following proposal for budget for the ensuing year:

Proposed Budget for 1926

1. Grants in aid of medical research	$12,000.00
2. Expenses for annual meeting of committee	600.00
3. Clerical help and minor expenses	600.00
	$13,200.00

Respectfully submitted.

Ludvig Hektoen, Chairman,
Committee on Scientific Grants.

Committee on Scientific Grants:
Ludvig Hektoen, Chicago, chairman, term expires 1926.
C. C. Bass, New Orleans, 1927.
Charles A. Frazier, Philadelphia, 1928.
Noble Wiley Jones, Portland, Ore., 1929.
Martin H. Fischer, Cincinnati, 1930.

REPORT OF COMMITTEE FOR THE PROTECTION OF MEDICAL RESEARCH

To the Board of Trustees of the American Medical Association:

At a meeting of the House of Delegates held at Chicago, June 2, 1908, Dr. W. R. Townsend offered a resolution recommending that the Board of Trustees establish a Council on the Defense of Medical Research. This resolution was carried. The Trustees appointed, as members of the new Council: Walter B. Cannon, Boston, chairman; Joseph A. Capps, Chicago; Harvey Cushing, Baltimore; David L. Edsall, Philadelphia; Simon Flexner, New York; Reid Hunt, Washington, D. C., and Herbert C. Moffitt, San Francisco.

The Council organized at Philadelphia, Nov. 7, 1908. It immediately began work in three definite and different directions: (1) investigating the conditions of animal experimentation and the opposition to it; (2) taking precautions against abuse of animal experimentation, and (3) diffusing information to correct misjudgments of the conditions and purposes of medical research, and to instruct interested people about laboratory procedures and the results of laboratory studies of disease. These lines of work were regarded as fundamentally important. Experience has proved the correctness of that judgment.

1. In studying the conditions of animal experimentation and the opposition to it, a nation-wide inquiry was instituted to learn about the methods of securing animals, the care of animals in medical schools, and the degree to which students are permitted to carry on independent experimentation. In order to learn about the opposition to medical research, the Council has through many years collected antivivisection literature and has on file a large amount of well arranged material gathered from antivivisection articles in lay periodicals and also in antivivisection journals. Knowledge of the active centers of agitation is thus well known and can be properly judged as to its influence and effectiveness.

2. In taking precautions against abuse of animal experimentation, the Council first collected from some of the older laboratories rules that had been formulated, laying down the precautions and expressing the spirit with which animal experimentation should be conducted. These rules were summarized and revised in such a way as to render them generally applicable. By the end of 1910 the revised rules had been adopted in practically all laboratories of medical schools in the United States. An inquiry sent out three years ago showed that the rules were posted not only in all medical school laboratories, but also in institutes of medical research and in many of the laboratories of state boards of health and of veterinary schools and colleges. Last year a move was instituted to have the rules accepted by laboratories of comparative psychology in which animal experimentation is being conducted. The widespread display of self-imposed regulations which define the precautions to be taken to avoid pain, and which represent the humane attitude of the persons engaged in animal experimentation, has been used very effectively during the last fifteen years *to combat legislation aimed at nonprofessional control* of medical research. The fact that the experimenters themselves had already taken the precautions which the bills commonly proposed has done much to dispel the suspicions aroused by antivivisection propaganda.

A further move in the direction of allaying suspicion was taken by the committee in 1921 when it secured the adoption of the "open door policy." In accord with this policy, *laboratory officials throughout the United States publicly declared* their willingness to admit at all times representatives of humane societies in order that the latter might become acquainted with the actual conditions under which animal experimentation is being carried on. In some instances the provision was made that visitors must have previously seen an operation on a human being in order to be able to appreciate the humaneness of laboratory methods. In 1922 the Blue Cross Society, an organization for the humane care of animals, widely circularized excerpts from the letters of deans and directors of laboratories, testifying to the enforcement of the rules for regulation of animal experimentation and to the maintenance of the open door policy.

3. The third line of work undertaken by the Council was that of diffusing information regarding the nature and results of the laboratory study of disease. This was done primarily by means of a series of authoritative articles, prepared by experts in their several fields, showing the relation between animal experimentation and the practical aspects of medicine and surgery. Twenty-nine articles were prepared, some of a general summarizing nature, but most of them having the special character just mentioned. They have proved a highly valuable source of information for all persons who have had to deal with legislative committees or with the general public. On these articles have been based many instructive papers which have appeared in lay journals, as, for example, the influential articles by Mr. Ernest Harold Baynes.

The Council, established as a separate body in 1908, became a subcommittee under the Council on Health and Public Instruction in 1910. When that council was abolished in 1923, the Committee for the Protection of Medical Research was continued as a committee of the Board of Trustees.

During the many years of its existence, the membership of the committee has largely changed. At present, it consists of Dr. Simon Flexner, New York; Dr. George W. McCoy, Washington, D. C.; Dr. William Ophüls, San Francisco; Dr. William Pepper, Phiadelphia; Dr. A. J. Carlson, Chicago, and Dr. W. B. Cannon, Boston. It will be noted that in this committee, just as in the first committee, the country is widely represented. The purpose of this scattered membership is to have representatives in various sections of the country where hostile agitation may result in attempts at legislative restrictions. Since their first appointment, members of the committee, either by local organization or by collective action, have repeatedly opposed attempts at restrictive measures in the legislatures of Massachusetts, New York and Pennsylvania, occasionally in Maryland, Minnesota and California, and also in the United States Congress. They have also aided in defeating attempts to secure popular legislation by use of the initiative in Colorado, and twice in California. Every victory won has made subsequent victories easier.

As a consequence of the efforts of the committee during the last seventeen years, it may be fairly stated that medical research involving use of lower animals is now well safeguarded. We are assured that the laboratory procedures are conducted carefully, so that discomfort and pain are minimized. The public suspicion has been allayed by the adoption of humane regulations and by the declaration of the open door policy. The public has been made aware of the great benefits to mankind which have come through laboratory investigations. The fundamental work done about fifteen years ago laid a basis on which effective defense of research could be conducted. The work in recent years has been chiefly that of watching carefully the activities of the antivivisectionists, and bringing our forces into action wherever action was prudent. So uniformly successful have we been in defeating attempts to interfere with research that the danger of interference has become less and less as years have passed.

In 1921, there was established in Boston a committee of laymen for the protection of medical research. This was the expression of an interest which the committee of the American Medical Association had been considering for nearly ten years. The Boston committee developed later into the organization called the Friends of Medical Progress, later renamed the Association for Medical Progress, with headquarters in New York City. A good deal of the burden of carrying on public instruction and defeating dangerous legislation will probably be carried in future by this organization of laymen.

Since I have been chairman of the Committee for the Protection of Medical Research in its various relations to the American Medical Association since its first establishment in 1908, and since, in my opinion, it would be wise for a younger person to assume the chairmanship and carry on the activities which I have been engaged in during the last seventeen years, I respectfully request that another chairman be appointed in my place.

Walter B. Cannon, Chairman.

Committee:

J. A. Capps, Chicago
William Ophuls, San Francisco.
William Pepper, Philadelphia.
Simon Flexner, New York.
George W. McCoy, Washington, D. C.
Walter B. Cannon, Chairman, Boston.

REPORT OF COMMITTEE TO COOPERATE WITH THE COMMISSIONER OF INTERNAL REVENUE AND THE SECRETARY OF THE TREASURY

To the Board of Trustees:

Your committee appointed to cooperate with the Commissioner of Internal Revenue and the Secretary of the Treasury in drafting regulations to govern the distribution of medicinal liquor and vested with the general duty of advising the Board of Trustees with respect to policies in relation to the National Prohibition Act begs to submit the following report:

Your committee has held three meetings; has conferred with the Assistant Secretary of the Treasury in charge of prohibition; has conferred with Joseph S. Auerbach, Esq., counsel for Samuel W. Lambert in the pending test case in the U. S. Supreme Court; and has done much work by correspondence. On the basis of these studies of the situation it begs to submit the following recommendations:

1. That the following regulations be approved by the Board of Trustees to govern the prescribing and dispensing of liquor in event the quantitative limitations under the National Prohibition Act as amended be declared unconstitutional by the U. S. Supreme Court:

(*a*) Any physician prescribing more than one pint of liquor in thirty days to the same patient shall issue a certificate to accompany said prescription and be necessary to its validity, that the excess prescribed for is in the judgment of the prescribing physician a medical necessity, and the prescribing physician shall forthwith mail or deliver a copy of said certificate to the prohibition administrator of the district in which said prescription is to be filled

(*b*) That any person to whom a pharmacist delivers liquor called for by any prescription be required by the pharmacist to pledge himself in writing on the prescription blank, that, so far as lies in his power to prevent it, no part of any such liquor will be used for other than lawful medicinal purposes.

The foregoing proposed regulations and one other were submitted to General L. C. Andrews, Assistant Secretary of the Treasury in charge of prohibition. Under date of Feb. 12, 1926, General Andrews wrote:

> These proposals have been considered by my assistants and myself and we are satisfied that their immediate promulgation, following a decision of the Supreme Court which overthrows the existing law, will be most helpful. This applies to the first and second proposed regulations, and I hereby notify you that these two suggestions will be embodied in our regulations unless your Association, after its consideration of your [this committee's] report, recommends regulations other than these, in which case we will gladly give them prompt consideration

2 That the following proposed legislation be approved by the Board of Trustees, for enactment by Congress:

That it be made unlawful for any person to seek to obtain liquor for medicinal purposes by false representation or by concealment of material facts

The foregoing was submitted to the Assistant Secretary of the Treasury with a view to its promulgation as a regulation. The Assistant Secretary, however, wrote

> . . this suggestion cannot be embodied in regulations as it is clearly a matter for legislation I have submitted it as a suggestion to the committee that is now engaged in framing recommendations for further legislation, and it will be included in *these recommendations* if this legislative committee feels that it can be advantageously presented to Congress at this time

3. That suggestions be made by the Assistant Secretary of the Treasury for the reduction of the amount of liquor allowed physicians for emergency use and of alcohol allowed physicians for other than internal use be approved in the following terms

(*a*) That the allowance of spirituous liquor to physicians for emergency use be reduced so as not to exceed normally two quarts annually, not more than one pint to be purchased by the physician at any one time, and that the amount of alcohol allowed physicians for other than internal administration be reduced so as not to exceed normally more than three gallons annually to any one physician. Provided, however, that prohibition administrators be empowered to authorize larger allowances, both annually and in the quantity purchased at any one time, in the case of any physician who submits to the prohibition administrator within whose jurisdiction he practices satisfactory evidence to show that the nature and extent of his practice are such as to make such larger quantities necessary.

4. That proposed legislation, now being offered Congress, imposing heavy penalties for forging or counterfeiting physicians' prescriptions, etc., be approved by the Board of Trustees.

5. That the purchase by the government of the whole supply of medicinal whisky in the United States, reported to be under consideration by Treasury prohibition officials, be endorsed by the Board, as in harmony with principles already adopted by it, namely:

(*a*) That the federal government establish throughout the United States depots and subdepots for dispensing liquor on physicians' prescriptions and to physicians for medical and scientific purposes, it being understood that any pharmacy or other place where liquor may lawfully be dispensed under state law may be designated as a government subdepot.

(*b*) That the dispensing of liquor on physicians' prescriptions and to physicians be restricted to such depots and subdepots and to such other government agencies as Congress may establish

(*c*) That the government see to the purity of all liquor dispensed at government depots and subdepots and guarantee the quantity in each container.

6. That pending the purchase and distribution of liquor by the government, legislation be enacted or regulations promulgated requiring the distribution of liquor for medicinal use by retail pharmacists to be in bottled-in-bond packages.

7. That the Committee on Prohibition, with the cooperation of the Bureau of Legal Medicine and Legislation, be authorized to cooperate in the framing of legislation to carry the foregoing recommendations into effect, and to appear before the proper committees of Congress in support of the legislation thus prepared, so far as such action may be deemed by the committee not inconsistent with its present cooperation with the Assistant Secretary of the Treasury and with Mr. Auerbach.

William H. Mayer, Chairman.
Alexander Lambert.
Paul D. White.

REPORT OF COMMITTEE ON DISASTER RELIEF

This is an outline of a plan for immediate medical relief, by the American Medical Association in cases of disaster.

The reason for suggesting this is the confusion and often breakdown that occurs immediately after any large disaster, before the established state and national organizations which properly take charge of such situations arrive on the scene. This immediate difficulty is due largely to the fact that, except in the larger centers, there is apt to be no organization or individual with any authority for taking charge of these situations and directing the immediate work of medical relief. The suggestion of this plan has been made by medical officers of disaster relief of the American Red Cross with the hope that through it these immediate difficulties can be overcome and that cooperation with the Red Cross can be made more effective.

The purpose of the suggested organization is to provide an organization that can immediately function in the case of disaster by reason of its having a medical man designated in each county of the country who shall be deputized by the American Medical Association to act at once in organizing and directing immediate medical relief. He is to assume direction of medical relief until the properly constituted authorities or other recognized state or national organizations arrive and assume charge. It is not intended that this organization shall take permanent charge or that it shall take over the functions of the bodies provided by the state and federal governments, including the Red Cross. The function of this organization is primarily to furnish immediate medical relief in the interval before the usual organizations arrive. After their arrival, this organization is expected to put itself under their direction or control or cease to function, except in the unlooked for situation where the organizations properly looked to so fail to meet their obligations that independent action is necessary to prevent suffering. It is to be hoped, and it is our expectation, that this organization will be able to cooperate both before and after their arrival with the state and federal organizations for relief, and with the Red Cross.

It is not the function of this organization to take charge of railroad disasters or of any other sort of industrial disasters where the corporation involved has its own organization to act immediately in these disasters. The function of this organization, in short, is not to take over medical relief in situations in which organized machinery to take care immediately of disasters already exists. The purpose of this organization is to provide systematic direction for relief only in those situations in which, for the time being, no adequate organization exists for performing this function.

The plan particularly has in mind disasters of such magnitude that they temporarily break down the ordinary machinery of the community for medical relief and call for the sudden mobilization of the medical profession of the community in order to cope with unexpected situations. The necessity for this may arise in a city as well as in a small community.

The essential thing in such a plan is that there should exist potential machinery that can immediately be called on to act in the event of disaster. Disasters such as would call on this organization are fortunately so rare that any special organization that existed for this purpose alone would be very difficult to keep alive because of lack of demand for its services. It would seem, therefore, that the best plan would be to attach this function of disaster relief in each community to one of the regular officers of the constituent societies of the state medical associations. The officers on whom it would seem best to put this responsibility are the presidents of the local societies. They are representative men in their towns and counties, are chosen heads of the profession and, in the nature of things, have its confidence.

The plan, then, would be that the American Medical Association should direct that immediate supervision of disaster relief, until taken over by the proper organizations, should be a function of its officers as follows:

In counties: the president of the county medical society. Where more than one county is represented in a single medical society, the director of disaster relief should be the president of this society.

The state director of disaster relief should be the president of the state society.

The national representative of the American Medical Association for disaster relief, it would seem, should be some one who is in the headquarters of the American Medical Association and, who, therefore, could always be reached promptly. And it would seem that the proper officer to represent the Association as director of disaster relief should be the general manager or secretary of the Association, who should act, as far as possible, with the aid and advice of the President of the Association.

The functions of the county or local director of disaster relief would be to assume charge—act as captain—in systematizing, directing and controlling activities in immediate medical relief. He should feel that he is responsible for the direction not only of the local members of the profession but also of volunteers who come in. The great difficulty in these situations is that no one under present conditions feels that he can with propriety assume direction. Under this plan the president of the county medical society not only could with propriety assume direction but should be expected to do so by the members of the profession.

The president of the county or district society should be allowed, if he wishes, to deputize the direction of relief to another member of the profession of his choice. If he does this it should be done formally and publicly, and this act should give his deputy full authority to act in his place.

The functions of the president of the state medical society as state director of disaster relief should be to see that the presidents of the county societies live up to their responsibilities, to cooperate with them in every way possible, and to act as a central officer through whom, in necessity, the national director of disaster relief or any outside organization could take up matters, particularly matters that they desired to bring to the notice of the members of the profession as a whole.

The national director of disaster relief should have functions similar to those of the state directors of disaster relief for the country as a whole.

The Secretary or the General Manager of the Association as national director of disaster relief and the presidents of the state societies as state directors of disaster relief should be liaison officers between the national headquarters of the Association, state headquarters and the component county societies.

An immediate function of theirs, in case this plan is adopted, would be to see to it that the presidents of the local societies and the profession of the country become acquainted with this plan of organization for disaster relief, and that in the event of disaster the president of the local society is to be looked to as the director in charge of medical relief until the proper authorities appear to take control.

This information should not only be given on the adoption of the plan, but should be repeated from time to time, until the plan becomes a tradition and in disaster the profession and the public come naturally to expect the president of the county medical society to take immediate charge and to expect the medical profession to act under his direction as long as the immediate necessity exists. To this end, information of this plan should be promulgated repeatedly through The Journal of the American Medical Association, through the American Medical Association Bulletin, through the state medical journals and societies, and by such other means as may be effective.

William Allen Pusey.
W. D. Haggard.
Wendell C. Phillips.

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

The Judicial Council has held two meetings in Chicago since the last Annual Session. At each of these meetings consideration was given to many matters of varied character presented to the Council by officers of constituent state associations and of component county societies, by individual members, and even by independent organizations. In every instance, where matters presented came within the jurisdiction of the Council, action was taken or a ruling was made. In other instances where thought advisable, the Council offered suggestions that were intended to be helpful. As heretofore, in the interim between meetings of the Council, a mass of material has been dealt with through correspondence.

Defining Contract Practice

Because of many inquiries received, it has been thought necessary to define the term "contract practice." The following definition, arrived at after very thorough consideration and prolonged discussion, is presented for the consideration of the House of Delegates:

> By the term "contract practice," as applied to medicine, is meant the carrying out of an agreement between a physician or group of physicians as principals or agents and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or for a fixed rate per capita.

Defining Allied Sciences

At the request of the secretary of a constituent state medical association, and because of conditions that seem to exist to a greater or less extent in all states, the Council has attempted to define the term "allied sciences" as used in the Constitution and By-Laws. The definition presented below, although arrived at after thorough consideration, will perhaps not be found as explicit as may be desired. This is in large measure due to the fact that there has been a great increase in the use of physical apparatus and a great growth of knowledge in the fields of medical chemistry, physics, physiology, roentgenology, etc. Thus has been brought about a closer alinement of physicians and of students and workers in these various fields and a correlation of effort for the development of medical science and the application of new discoveries in general science.

> By the term "allied sciences," as applied to medicine, is meant those subdivisions of general science that are held by teaching institutions of standing and reputation conferring the degree of Doctor of Medicine to have a place in the professional education and training of a physician.

Solicitation of Patients Through So-Called Health Associations or Hospital Associations

A number of communications have been received during the year concerning questions of ethics involved in the organization and operation of so-called health associations or hospital associations which, through paid solicitors or otherwise, solicit members. These "members" are, of course, prospective patients. The general plan being used by these groups embraces the payment of nominal membership dues, for which medical and surgical services, or in some instances medical, surgical and hospital services, are promised when needed. The Judicial Council has not been able to arrive at any definite conclusion with respect to the motives behind the organization of some of these groups. It is of the opinion, however, that in some instances promises are made that cannot be carried out because it is utterly impossible for adequate medical service, to say nothing of surgical and hospital service, to be delivered for the sum realized through the collection of nominal membership dues. The Principles of Medical Ethics of the American Medical Association specifically condemn the solicitation of patients whether by individual physicians, by groups, by institutions, or by organizations of physicians. The Judicial Council is of the opinion, therefore, that, so far as these health or hospital associations are organized for the purpose of soliciting patients, they are distinctly unethical. It goes without saying that for any organization of any kind to offer for an agreed stipend more than the reasonable worth of that which is offered is wrong in principle, and physicians should guard themselves against being connected with such organizations.

It has also come to the attention of the Judicial Council that lay groups have in some instances organized or have sought to organize their members into so-called health associations. Their purpose, as frankly stated, is to secure a reduction in the cost of medical, surgical and hospital service to their members. So far as such organizations may be actuated by motives designed to reduce the cost of medical service to themselves below a sum at which adequate service can be rendered by competent physicians, they are, of course, based on misconception and will bring about results disastrous to their own members. The Judicial Council, while mindful that an occasional physician may be thoroughly commercialistic and may make unjust charges, does not believe that the reputable medical profession as such can be justly accused of imposition and extortion. The cost of medical service has undoubtedly increased, but it is believed that this increase has not been by any means proportionately as great as the increased cost of living commodities, or of labor, or of services rendered by the members of other professions. The individual physician who drags pure commercialism into the practice of medicine or who extorts undue fees from his patients brings reproach on the whole profession and should receive the censure that is due him; likewise, he who bargains to furnish medical service to groups at rates below a fair value of the services rendered. The honest and competent physician who is interested in maintaining honored traditions and who is in the practice of medicine as a profession should receive such compensation for his services as will enable him to maintain himself and his family in comfort and to make provision against the time when he cannot keep up professional activities.

Unethical Cooperative Projects

Several proposals looking to the organization of groups of physicians in cooperative projects have been submitted to the Judicial Council. In most instances these have been in the nature of stock selling and stock holding schemes whereby physicians interested would realize on investments in proportion to the amount of work referred by them to the "clinic" or laboratory operated under the particular scheme. After its examination of these proposals, the Council has concluded that nearly all of them appear to be open to the criticism that they are, or may be suspected of being, essentially fee-splitting projects. The Council, therefore, has refused to give its approval to joint stock companies of physicians organized for the purpose of operating clinics or laboratories with the stock owned in part or in whole by physicians connected only as stockholders.

Status of Physicians of the Veterans' Bureau

A letter from B. W. Black, Acting Medical Director of the United States Veterans' Bureau, and resolutions adopted by the Medical Officers' Association signed by Justus M. Wheate, M.D., chairman of its executive committee, were referred by the House of Delegates to the Judicial Council. The letter and resolutions had to do with the status of physicians in the employ of the United States Veterans' Bureau, whose assignments are, or may be, frequently changed and who are not now members of the American Medical Association. These physicians seek to secure membership in the Association without affiliation through component county medical societies and constituent state medical associations. Under the provisions of the By-Laws, physicians generally, not engaging in practice, may retain membership in component county and constituent state associations in which they originally held such membership even though their assignments may require temporary residence for relatively long periods in various locations. There is no provision in the By-Laws of the Association for admitting physicians in the service of the Veterans' Bureau to membership in the American Medical Association other than through membership in the component county society and in the constituent state association. Th

Judicial Council would recommend, therefore, that these physicians continue their membership in the county societies and state associations of which they were originally members.

Respectfully submitted.

M. L. Harris, Chairman.
J. N. Hall.
F. W. Cregor.
W. S. Thayer.
G. E. Follansbee.
Olin West, Secretary, ex officio.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

The successful functioning of this Council has demonstrated the beneficial results of the basic principle in democratic countries—government by the governed. The great improvements in medical education were made possible through the splendid but voluntary cooperation which the Council received from the better medical schools. Through such voluntary cooperation, also, greater actual progress was made than could have been possible had the Council been clothed with legal powers. Under legal power the service rendered is usually merely sufficient to comply with the legal requirements, whereas with voluntary cooperation the services rendered are much more extensive and complete.

Following the lead of the medical profession in the provision of lists of approved medical schools, other lines of general and professional education through voluntary agencies have likewise brought out lists of approved colleges of arts and sciences, law schools, dental schools, etc.

As no national legal control has been established over general or professional education and, as the state laws have widely differed or, for other reasons, have failed to function, it was but natural and proper that control should be assumed by voluntary agencies made up of those expert in the various fields. In the efforts to put its own house in order, the medical profession, through the work of this Council, has secured greater improvements than were considered possible at the beginning of the campaign.

The Council's Approved Lists

The tremendous influence being exerted by the organized medical profession through this Council in the fields of medical education and practice, may be appreciated by noting the six lists of "approved" institutions now being maintained by the Council on Medical Education and Hospitals. These lists are:

1. *Medical Schools.*—A marvelous improvement has resulted from the publication of the classification of medical colleges during the nineteen years since it was established. Whereas, in 1907, only 294 physicians graduated from high standard and well equipped medical schools, or 5.9 per cent of all graduates, there were in 1925, 3,852, or 96.2 per cent of all graduates, who came from these higher type medical schools. Prior to the publication of this list, prospective medical students had no means of knowing the character of the institution they were intending to enter.

2. *Graduate Medical Schools.*—As a result of the investigations on which this list is based, there are now eighty-six institutions, including forty-eight graduate medical schools and thirty-eight hospitals, which are known to be places where physicians can secure satisfactory courses in graduate medical education. This is a sharp contrast with conditions only ten years ago (in 1916), when there were only twenty so-called postgraduate medical schools whose courses were of unknown quality.

3. *Hospitals Approved for Interns.*—In 1914, there were only 603 hospitals that were using or willing to use interns, providing places for only 2,527 interns each year—not nearly enough for the 3,594 graduates in that year. The hospitals were not inspected and the opportunities of clinical training available for interns in most of them were unknown. Now, however, through inspection, it is known that greatly improved opportunities for interns are available in 562 hospitals which provide internships for 4,683 graduates.

4. *Hospitals Approved as Reputable.*—Since 1905, positive evidence has been received showing that unethical practices were being carried on in certain hospitals by members of their staffs. The names of these institutions, as positive evidence is received, are being eliminated from the lists of hospitals published in The Journal of the American Medical Association and in the American Medical Directory. Since 1920, when all the Association's work in connection with hospitals was definitely turned over to the Council, investigations of hospitals have been conducted in a more routine and efficient manner. As a result, the list of approved institutions is more reliable and complete. With the increased financial provision for the Council's work with hospitals, just made by the Board of Trustees, the elimination of still other unfit institutions can be brought about. The educational function of all hospitals, it is believed, can also be developed.

5. *Approved Colleges of Arts and Sciences.*—In 1914, when "a year of college work" was required for admission to medical schools, little was known in regard to which of the thousand or more liberal arts colleges in this country were worthy of bearing that name. In 1915, a list of such colleges was compiled, based on lists of those approved by the Association of American Universities and the North Central and Southern Associations of Colleges and Secondary Schools. These associations had the standards and the machinery with which to prepare satisfactory lists, and the Council, by publishing their lists, has made this information available for the deans of medical schools, as well as for prospective medical students. Now, the associations of colleges in both Atlantic and Pacific coast states have also established approved lists, so that the names of all worthy liberal arts colleges in all parts of the country are being published by the Council in a special pamphlet. Until a few years ago the Council's pamphlet was the only one published which gave this complete list of the approved colleges of arts and sciences.

6. *Clinical Laboratories.*—An approved list of clinical laboratories is now in its formative stage, and the work is well under way. This list will include laboratories which, after investigation, are known to be reliable and reputable and will tend to eliminate those which are poorly equipped, unreliable or unethical.

The Year's Progress in Medical Education

There still remain eighty medical schools in the United States, as the new University of Rochester School of Medicine has taken the place of the General Medical College of Chicago, which closed its doors in 1924. The enrolment of students still continues upward, there being enrolled this year approximately 18,560, an increase of 360 students over the enrolment of 1925. An estimate indicates also that there will be about 4,020 graduates this year, or about forty-six more than in 1925.

Reports still persist that properly qualified students are unable to secure enrolment in medical schools. It is evident that the situation is exaggerated, as students seeking admission make application to two or more institutions, whereas each one can occupy only one place, and thus numerous vacancies occur after the session begins. As reported a year ago, after the enrolments were completed, 1,355 vacancies still remained, of which more than 200 were in the freshman class. An investigation is now being carried on in an attempt to ascertain whether any well qualified student, holding grades above the average, has actually failed to gain admission to some class A medical school. There are probably some students who wish to enter some one medical school and prefer to wait a year rather than enroll elsewhere. There are others, evidently, who cannot afford to go to medical schools outside their home cities.

Medical Students Who Do Not Graduate

The Medical Students' Register has now been established for fourteen years and is bringing out some interesting data. During the fourteen years from 1911 to 1925, inclusive, 64,291 students were enrolled and, of these, 47,241, or 73.5 per cent, graduated. It is interesting to note also that of the 17,959 who have not graduated, 8,973, or 52.6 per cent, dropped out at the end of the first year, and 3,884, or 32.8 per cent, dropped out at the end of the second year. More than 75 per cent of those who discontinued medical study, therefore, did so during their first two years, while less than 25 per cent were dropped during the advanced years. This is as it should be, as students unable to carry their grades properly should find it out early in the course and not be permitted to drag on and finally be eliminated in their final examination just as they are in view of their objective.

THE AVERAGE AND MEDIAN AGES AT GRADUATION

Statistics collected regarding the age of students who graduated in 1925 or who completed the four years of instruction show that the average age on graduation was 26.8; the largest number graduated of any one age was at the age of 25, and the median line separating the lower half from the upper half of the students graduated came at the age of 26.1 years. These three findings are identically the same as previously shown for the graduates of 1922. These ages would be increased by another year if the year's internship is included.

FOREIGNERS SEEKING LICENSURE IN THE UNITED STATES

The number of foreign physicians seeking licensure in the United States, not counting those from Canada, has increased from 67 in 1919 to 176 in 1921 and 519 in 1924. From Canada the number has increased from 71 in 1919 to 212 in 1924. Altogether, therefore, the total has increased from 138 in 1919 to 731 in 1924. During 1925, there were 473 candidates from abroad and 262 from Canada, a total of 735. The uncertainty regarding such candidates does not apply to those coming from Canada, since, through a most courteous and complete cooperation from the Canadian physicians, the character of Canadian medical schools is so well known and the verification of Canadian credentials so promptly and easily obtained.

This influx of physicians from abroad has brought about a rather serious situation in that they are entering a field already seriously crowded. The matter of chief concern, however, is the difficulty of securing a verification of the applicants' credentials from certain countries abroad, especially from Russia, and a still greater difficulty of proving their identity. The credentials of many of these foreign physicians have come to the Council for verification. In instances—including several from Russia—the credentials have been so patched up as to indicate alteration or fraud. Newspaper reports, furthermore, allege that the Soviet government has removed financial support from the (formerly) imperial universities. A recent list of the Russian medical schools compiled by the Rockefeller Foundation also contains many new medical schools the exact character of which is very doubtful or unknown.

In an effort to safeguard the public against this influx of physicians from abroad, the licensing boards of nine states[1] report that full citizenship is now required of all candidates from abroad; in five others[2] they are required to have taken out their first papers, and in Minnesota and New York they must declare their intention to become citizens. In three states,[3] foreign candidates of doubtful qualifications must successfully complete at least a year's work in a medical school or hospital in this country.

It is recommended that the credentials of all foreign candidates be carefully investigated by all state licensing boards; that the identity of such applicants be clearly established before they are admitted to examination, and, even more important, that the credentials be not accepted at all unless positive information regarding the educational standard of the medical school can be obtained. No undue obstacles, however, should be placed in the way of the foreign physician of known qualifications who desires particularly to secure graduate medical education in this country.

QUALIFICATIONS OF HOSPITAL STAFF MEMBERS

During the last few years, extreme pressure has been made by osteopaths mainly in California, Idaho and Iowa to force their admission to staffs of hospitals, and particularly of those receiving state aid. A ruling bearing on this question was first made by the Council in 1923, which, with amendments made since that time, now reads:

> In order to receive and retain a position among hospitals approved for the training of interns, a hospital must admit to its staff only reputable physicians who obtained their medical training in, and secured the degree of Doctor of Medicine from, a medical college determined as acceptable by the Council on Medical Education and Hospitals of the American Medical Association. This ruling must be enforced for every person permitted to treat the sick in the hospital or in any of its departments except by nurses, masseurs or other like assistants when acting under the orders of a physician on the regular staff of the hospital. Wherever, because of legislative enactment, public officials deem it necessary to provide hospital facilities for practitioners other than graduates of reputable medical schools, then these shall be in a building or buildings which in every way are separate from hospitals for physicians and shall bear different names.

With separate buildings and different names, there can be no possibility that the approval by the Council of any physicians' hospital can be construed as approval also of the nonmedical institutions.

In spite of sweeping changes made in the Iowa Medical Practice Act, it is believed that boards of hospital directors or trustees are not legally bound to admit these nonmedical practitioners. On the contrary, in the expressed opinion of the Judicial Council, hospital trustees not only have the legal right, but it is their duty, to refuse to admit to the hospital staff any one, whether a physician or not, who in their opinion is not educationally or morally qualified to care efficiently for sick or injured people. This position, indeed, has been strengthened by the fact that hospital trustees have been upheld in every case taken into court in which nonmedical practitioners have been refused admission to the hospital staff.

Any lowering of the essential qualifications required for admission to the hospital staff, whether it applies to a medical or to a nonmedical practitioner, will destroy the high degree of efficiency which hospitals now maintain, so that instead of being places where safe treatment of the sick is assured, they will become places of actual menace. The only safe procedure is rigidly to maintain high educational and moral qualifications for every one admitted to the hospital staff.

In the opinion of the Council, this matter is sufficiently serious to warrant the decision that no hospital can be approved which admits to its staff a so-called "drugless" practitioner or any one else who is not qualified either morally or professionally, or which permits him to care for patients within its walls. It is the opinion of the Council, therefore, that the names of hospitals which violate this rule should not be included in any list of hospitals published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION or in the American Medical Directory. Meanwhile, similar action has been taken by the several other national organizations which have to do with the investigation and approval of hospitals.

LAY HOSPITAL ASSOCIATIONS

The Council's attention has been called to the attempts by various laymen's hospital associations and others to establish hospitals and also to the danger of such institutions being established with inadequate medical control. Several such associations, it is understood, have been reported to the Judicial Council. The force back of these associations is evidently the desire to secure modern medical service at a lower cost for the average run of humanity. The report of one such society is quoted as being: "We want to resolve our society so that we can secure medical care and hospital services at nominal charges." Others, it is claimed, were organized in order to provide more efficient medical service at more reasonable charges than are now available for people with average incomes.

It is believed that the problems underlying such organizations require a broader consideration by the American Medical Association than can come through the limited functions of the Council on Medical Education and Hospitals. At the

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[1] Arizona, Florida, Illinois, Indiana, Kansas, Kentucky, Nebraska, North Dakota and Oklahoma.

[2] Louisiana, Maryland, Michigan, New Hampshire and Texas.

[3] Michigan, New York and Pennsylvania.

Council's business meeting, held, Oct. 18, 1925, the following recommendation was adopted for submission to the House of Delegates:

> The Council on Medical Education and Hospitals, while primarily interested in the education of the medical student and intern, is conscious of increasing demands on clinics and hospitals for medical care on a basis permitting those of ordinary means to have the benefit of modern medical science. The medical profession cannot feel satisfied with the present extension of hospital service and of other opportunities for the care of the sick until every man, woman and child, regardless of their economic status, can have such benefits. In order to assist in guiding the great social forces now in operation and which are at present leading to many errors and to deficient medical care for many of our fellow citizens, we recommend to the House of Delegates that a "Committee on the Public Responsibility of the Medical Profession" be created consisting of one member from each of the councils and bureaus and at least three additional members serving five year terms, and that this committee act as a general board, giving advice to the House of Delegates, the Board of Trustees and the various councils on the various social implications of the practice of medicine.

In the opinion of the Council, although the high charges for hospitalization appear to be essential, nevertheless, the necessity of providing such services at lower cost to the average patient constitutes a very live problem.

Another Complete Hospital Census

In 1920 the Council published in The Journal a census of all the hospitals in the United States with the most complete data then available from any source. Such was the demand for that information that the supply of extra reprints and copies of that issue were soon exhausted.

In 1925, after a lapse of five years, another complete census was made. Many new hospitals were found; many others had been enlarged, and others discontinued, merged, and changed name or ownership. The data, which are exceptionally complete and accurate, were published in the Hospital Number of The Journal, April 3, 1926. A complete list of hospitals for general service is published by states, giving for each hospital the bed capacity and the average number of patients. In a series of forty-eight state maps, the location of all hospitals in each state is given and it can be noted how many counties in each state are without hospitals.

Hospital Information Service

The demands for information regarding different phases of hospital work are rapidly increasing in volume and are received through correspondence, by telegraph, telephone, and by personal visits. They now amount to probably 6,000 separate calls a year, including the many requests from the other departments of the American Medical Association. Most of the information in the Council's hospital files is such as is not obtainable elsewhere.

Summary

(*a*) As no national legal control of education has been established in this country and because the control by legal state agencies differs so widely, or because these agencies have failed entirely to function, it was necessary for the medical profession to undertake such work voluntarily in order "to put its own house in order."

(*b*) In the establishing of an approved list of medical schools, the American Medical Association, through this Council, has led other standardizing agencies which have since established approved lists of colleges.

(*c*) The Council now has in charge six separate "approved lists"; namely, medical schools, graduate medical schools, hospitals approved for interns, hospitals approved as reputable, approved colleges of arts and sciences and clinical laboratories.

(*d*) Medical school enrolments and the number of students graduating are still on the increase, there being this year approximately 18,560 students and 4,020 graduates.

(*e*) The students' register shows that in fourteen years of all students enrolled, 73.5 per cent were graduated. Of those failing to graduate, 75 per cent dropped out during the first two years of the medical course.

(*f*) The median age at graduation for the class of 1925 was 26.1 years and the largest number graduating at any one age was at the age of 25. These ages are the same as previously shown for the graduates of 1922.

(*g*) Foreign physicians seeking licensure in the United States, exclusive of those from Canada, have increased in numbers from 67 in 1919 to 519 in 1924 and 473 in 1925. The chief danger from these is due to the difficulty of securing verification of their qualifications and personal identification of the applicants.

(*h*) The Council has established a ruling that no hospital will be considered as approved if other than reputable graduates of acceptable medical schools are permitted to attend patients in them or are admitted to their staffs.

(*i*) This special ruling is important, as certain groups of nonmedical practitioners are endeavoring to force their way into hospitals. The ruling will apply with equal force, however, if any other practitioner who is not qualified, morally or professionally, is permitted to treat patients in the hospital.

(*j*) Figures based on another complete census of hospitals in the United States, similar to that made in 1920, appears in the last Hospital Number of The Journal, that of April 3, 1926.

Respectfully submitted,

Council on Medical Education and Hospitals
Arthur D. Bevan, Chairman.
Walter F. Donaldson.
Merritte W. Ireland.
William Pepper.
Samuel W. Welch.
Ray Lyman Wilbur.
Louis B. Wilson.
N. P. Colwell, Secretary.

REPORT OF THE COUNCIL ON SCIENTIFIC ASSEMBLY

To the Members of the House of Delegates of the American Medical Association:

The Council on Scientific Assembly, through its usual annual meeting and through official correspondence, has given its attention to all matters that have been presented to it.

Assignments for Section Meetings at Dallas Session

Assignments for the meeting hours of the sections at the Seventy-Seventh Annual Session have been made according to the following schedule:

Morning	Afternoon
Diseases of Children	Practice of Medicine
Surgery, General and Abdominal	Obstetrics, Gynecology and Abdominal Surgery
Ophthalmology	Laryngology, Otology and Rhinology
Pharmacology and Therapeutics	Pathology and Physiology
Nervous and Mental Diseases	Orthopedic Surgery
Dermatology and Syphilology	Urology
Gastro-Enterology and Proctology	Preventive and Industrial Medicine and Public Health
Radiology	

Requests for Establishment of New Sections

The Council continues to receive communications addressed to it by groups in special limited fields of work, seeking the establishment of new sections of the Scientific Assembly. One or more of these desire that a Section on Physical Therapy be created. The Council has given very careful consideration to this matter, and its members are unanimous in the opinion that for the present at least it will be better to have papers on this subject read before the sections already established. In this manner the importance of physical therapy and the value of such methods and procedures as have been demonstrated to be efficacious in the treatment of disease can be brought before the profession generally, whereas the establishment of a separate section will result in discussions participated in by a relatively small number who are primarily interested in this especial field of therapeutics. The Council has recommended to the officers of the Section on Pharmacology and Therapeutics that a considerable part of its program for the 1926 session be devoted to physical therapy and has requested the officers of other sections to have on their respective programs one or more such papers.

The Section on Stomatology was abolished by action of the House of Delegates at the 1925 annual session. Several communications have been received, seeking the approval of the Council for the reestablishment of this section. The

Council proposed that at least one session in the Section on Miscellaneous Topics be assigned for the presentation of papers dealing with stomatologic subjects at the Dallas Session, but this proposal has not been acceptable to those who seek to have a separate Section on Stomatology.

Annual Conference of Section Secretaries

The Annual Conference of Secretaries of the Sections with the Council on Scientific Assembly was held in Chicago, Nov. 2, 1925 All sections with two exceptions were represented at this conference, at which plans for the compilation of the program for the Dallas Session were carefully considered. This conference, held each year, is always marked by the finest spirit of cooperation, and is characterized by sincere effort on the part of officers of all the sections toward making the program of the Scientific Assembly practical and helpful to the general members of the Association. The secretaries of the sections are charged with most important duties, the discharge of which requires a large amount of time and of intelligent effort. The Council on Scientific Assembly wishes to record its grateful appreciation of the splendid work of the secretaries and other section officers and to commend them for the success they have achieved toward maintaining the programs on a high plane of scientific excellence.

At each annual session a great deal of dissatisfaction is expressed because many contributors to the scientific program, in addressing the sections, do not enunciate distinctly and so make it very difficult for those in attendance to hear what they have to say. While it is quite true that in a few instances halls used for section meetings have not been satisfactory because of acoustic imperfection, it is equally true that often readers of papers make no apparent effort to enunciate distinctly or to use the tones necessary to carry their words to those who would hear. The consequence is that physicians who have traveled long distances, seeking information that will enable them to improve their service in the practice of medicine, fail to get what they have come for, and not infrequently a splendid scientific program is made unattractive and ineffective. The Council on Scientific Assembly would respectfully urge that every contributor, whether in the presentation of a paper or in a discussion, make earnest effort to speak so that he can be heard with understanding by all who want to hear.

Respectfully submitted.

J. Shelton Horsley, Chairman.
J. E. Lane.
E. S. Judd.
Roger S Morris.
F. P. Gengenbach.
Wendell C. Phillips, President-Elect. } Ex officio.
Morris Fishbein, Editor, The Journal. } Ex officio.
Olin West, Secretary. } Ex officio.

RESOLUTIONS AND AMENDMENTS TO BE SUBMITTED AT DALLAS SESSION

The Secretary of the Association has been notified that the appended resolutions will be submitted to the House of Delegates at the Dallas Session, April 19-23, 1926:

1. Resolution on Expert Opinion Evidence

To be offered by Dr. G E Follansbee, Ohio:

Whereas, The present court procedure in presenting expert opinion evidence in both civil and criminal cases has in many instances brought public criticism and disgrace on both the legal and medical professions, and

Whereas, The present procedure, in many cases, is believed to defeat the administration of even handed justice, and to operate notoriously in favor of the rich as compared to the poor before a court on similar charges, and

Whereas, an effort is being made in many states by the bar associations and medical societies of those states to correct such maladministration of justice, and to relieve the legal and medical professions of the public criticism now received, and

Whereas, The American Bar Association is actively pursuing the above laudable effort, therefore be it

Resolved, By the House of Delegates of the American Medical Association in its seventy seventh convention assembled that it recognizes the crying need for such remedial legislation and such change in court procedure as will correct the abuse of the use of expert opinion evidence; that it strongly favors the use of experts appointed by the courts as a corrective to the present abuse, that it approves the efforts of the various bar and medical associations; and that it offers its cooperation by such means as lie in its power to promote such legislation as will be mutually satisfactory to the legal and medical professions toward the correction of the present unsatisfactory procedure of presenting expert opinion evidence, and be it further

Resolved, That a copy of this resolution be sent to the *American Bar Association*

2 Resolution on Contract Practice

To be offered by Dr. A D Dunn, Nebraska:

Inasmuch as, Contract practice is absorbing an ever increasing portion of general medical practice as a result of rapid development and concentration in business and industry, and

Inasmuch as, Brokers under the guise of health, accident and sickness insurance in which they purport as middlemen to sell medical services to the laity are entering the medical practice, therefore be it

Resolved, 1. That the whole matter of contract practice be investigated under the direction of the Judicial Council

2. That the trend and dangers to patient and profession inherent in this movement be analyzed and clearly set forth

3 That recommendations as to the policy of the American Medical Association toward contract practice, its function, limitations and control, be submitted to the House of Delegates for action at its annual session in 1927.

3 Resolution on Home for Incapacitated and Dependent Physicians

To be offered by Dr. D. E. Sullivan, New Hampshire:

Providing for "a survey of the physical and financial status of those members who are incapacitated for earning a *support by the practice of* their profession," the "objective to be the establishment and maintenance of a home or homes for the care of such members under the management and control of the American Medical Association"

4 Resolution on Advertising by Hospitals

To be offered by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology:

Whereas, Hospitals are medical and surgical units and should be governed by the same rules of ethics and regulations that apply to individual physicians and surgeons, and

Whereas, Although certain hospitals conduct wide advertising campaigns, the committees whose duty it is to inspect and classify hospitals give little or no consideration to this matter in their investigations and classification, therefore, be it

Resolved, That the Council on Medical Education and Hospitals or other committees inspecting and classifying hospitals be respectfully requested, in their inspection and in their classification, to give proper consideration to the ethical questions involved in the conduct of advertising campaigns by such hospitals, and to determine the classification of hospitals on the same ethical basis that is applied in determining the standing of individual physicians who are members of the American Medical Association

5 Proposed Amendment to the By-Laws

To be offered by Dr. Wells P. Eagleton, New Jersey:

Amend Chapter III of the By Laws to provide for "an ad interim meeting of the House of Delegates of the American Medical Association to be held at least once a year at headquarters in Chicago"

6. Amendment to the Constitution Lying Over

Offered by Dr George F Keiper, Indiana:

Amend Article 10 of the Constitution by inserting the words "or Canada" after the words "United States," so that the last clause shall read "A session may be held at any place in the United States or Canada"

7 Amendment to the Constitution Lying Over

Offered by Dr. E. L Hunt, New York, chairman of the Reference Committee on Amendments to the Constitution and By-Laws at the Atlantic City session:

Amend the Constitution so that lay secretaries of constituent state *associations may have recognition* and standing in the sessions of the American Medical Association

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SATURDAY, MARCH 20, 1926

THE EFFECT OF ULTRAVIOLET RAYS ON MILK AND EGGS

All investigators of the physiology of the now known vitamins are in accord in the conclusion, based on numerous experimental tests, that the animal organism is incapable of synthesizing these essential food factors. Furthermore, the latter tend to be destroyed or lost from the body with the excreta, so that when any vitamin no longer is furnished in adequate amounts, an impoverishment in it presently can be detected. There is nothing novel in the demonstration of the relative incapacity of animals as constructive or synthetic agencies Long ago emphasis was placed by chemical students of bodily processes on the predominance of synthetic reactions in plants, on the one hand, and of disintegrative changes in animals, on the other. Yet this contrast must not be interpreted too strictly. The animal cells do build new products to some extent. The hemoglobin of the blood is exclusively animal in origin, some of the components of milk, not found elsewhere in nature, must owe their origin to constructive potencies residing in the mammary gland No one assumes that unique proteins, carbohydrates or fats are built up from the elements in animals as they seem to be in plants. The food resources of the former always supply fairly complex precursors in the form of amino-acids, sugars or fatty acids as the building stones for the larger complexes One might indeed expect to find the indispensable food requirements of the suckling young manufactured by the milk-producing organ as a biologic resource to prevent shortage of the essentials in the supply of organisms dependent entirely on the mother's contribution to their nourishment The facts, however, are otherwise

In the case of the cow, which has been adequately studied, the diet of the animal determines the content of vitamins in the milk This explains the notable differences in the nutritive value of so-called winter and summer milks, depending on the different quality of the fodders that are customarily fed to cattle in the different seasons. Another feature has now come into prominence in this connection. Since it has been determined that sunlight and particularly ultraviolet rays will exert effects comparable to those of the antirachitic vitamin (vitamin D), attempts have been made to learn how such radiant treatment will affect the quality of the milk. According to a recent announcement,[1] the results point to the conclusion that more of the substance necessary to cure rickets is absorbed by the cow exposed to ultraviolet rays and secreted by her in her milk. The cows prevented from receiving ultraviolet rays are not able to secrete this antirachitic substance in sufficient quantities to cure or allay the progress of clinical rickets

The results thus point to an environmental factor transmitted by the cow to her offspring through the medium of her milk. It further suggests that the high incidence of rickets in children during the late winter months is due to their mothers not receiving enough ultraviolet rays either during pregnancy or while in lactation. Furthermore, according to the most recent investigators, it would appear that cow's milk produced especially for baby feeding should be from cows that have access to ultraviolet rays either from the sun or from some other source. The striking experience with respect to the effect of ultraviolet rays in the case of milk seems to parallel what has been found in the case of poultry. According to investigators at the University of Wisconsin,[2] irradiation of hens influenced egg production beneficially in various ways. The antirachitic potency of egg yolks from irradiated hens was about ten times that of the egg yolks from nonirradiated hens.

THE TRANSFUSION OF BLOOD

A surgeon recently remarked that, although blood transfusion belongs to the newer advances in medicine and surgery, it no longer is a physiologic experiment the success of which depends on "the gymnastics of blood vessel surgery" The experience gained during the last decade in the transfer of the "viable fluid tissue" from a healthy donor to a recipient patient as a therapeutic procedure has placed it among the restorative and protective measures of the highest importance The records of these earlier years furnish an illuminating story of the evolution of experimental technic into a method that now finds successful application to increasingly large numbers of persons Some of the difficulties of the direct transfer of blood from person to person are obvious In addition to the fact that the donor needs to be in the vicinity of the patient, the ever threatening possibility of objectionable clotting in unmodified blood has served to direct attention to the use of "preserved" blood, notably that kept fluid by the presence of added citrates or other anticoagulants. Furthermore, the desirability of exercising proper selection of the donor with respect to the "suitability" of his blood and its compatibility in the vessels of the recipient has added to the difficulties of prompt direct transfusion.

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[1] Gowen, J W; Murray, J M, Gooch, M E, and Ames, F B: Rickets, Ultraviolet Light and Milk, Science 63:97 (Jan 22) 1926

[2] Hart, E B, Steenbock, H, Lepkovsky, S, Kletzian, S W. F; Halpin, J G, and Johnson, O N The Nutritional Requirement of the Chicken, V, *The Influence of Ultraviolet Light on the Production, Hatchability and Fertility of the Egg*, J Biol Chem 65:579 (Oct) 1925.

Even the most ardent advocate of the use of citrated blood must admit its shortcomings. Consequently, it was stated some time ago in a review[1] of the status of blood transfusion that while the citrate method should not be abandoned, the whole blood method should, when possible, be substituted for it. We subscribed to the conviction expressed by Brines,[2] among others, that there is never a time when citrated blood is as good as whole blood.

Meanwhile, several factors have intervened to lend support to this view. The technic of transfusing unmodified blood has been improved so effectively that a single report can be made, as that of Blain and Brines[3] of Detroit, on the satisfactory outcome, not of a few attempts, but of a thousand cases of transfer of undiluted, untreated and presumably unchanged blood. There were no instances in which the transfusion could not be performed. Under such circumstances, the safety of the direct method can no longer be impugned. According to the Detroit surgeons, the most conspicuous of the conditions in which it is of benefit are the various anemias, infection, hemophilia, purpura, and those surgical cases in which, owing to some nonspecific or unexplainable effect, the patient's condition is undeniably improved. A commendatory account of somewhat similar tenor was recently recorded by Kordenat and Smithies[4] of Chicago.

The variables represented by biologic or chemical differences in the bloods of donors and those of recipients cannot be so lightly dismissed. Fortunately, however, it happens that the provision of blood is becoming recognized as a useful public service. Thus, our London correspondent[5] recently described a branch of Red Cross work known as the London Transfusion Service, and expressed the belief that soon there will be a thousand donors on the roll. At present there is reported to be not more than an hour's delay between receipt of the call and the donor's arrival at the hospital. This availability is, of course, not confined to foreign clinics; every large American city has its record of "professional donors." It is not unlikely that their needs will require more careful consideration in the near future. Blain and Brines remark that there are possible instances in which a venesection is beneficial, and yet it is doubtful whether the average person is benefited by a loss of blood. The removal of more than a liter of blood at one time, as occasionally happens, presents a problem in blood regeneration, a biologic process that is today still *sub judice*. In our concern for the sick we must not overlook the needs of those who submit to make the patients' recovery more certain.

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[1] The Status of Blood Transfusion, editorial, J. A. M. A. **81:** 1114 (Sept. 29) 1923.

[2] Brines, O. A.: The Transfusion of Unmodified Blood, Arch. Surg. **7:** 306 (Sept.) 1923.

[3] Brines, O. A.: The Transfusing of Unmodified Blood, II, The Technic in One Thousand Cases, Arch. Surg. **12:** 124 (Jan.) 1926. Blain, A. W., and Brines, O. A.: The Transfusing of Unmodified Blood, III, The Clinical Aspect of One Thousand Cases, Arch. Surg. **12:** 140 (Jan.) 1926.

[4] Kordenat, R. A., and Smithies, Frank: The Phenomena Concerned with "Reactions" Following the Transfusion of Blood, J. A. M. A. **85:** 1193 (Oct. 17) 1925.

[5] A Band of Blood Donors, J. A. M. A. **85:** 1317 (Oct. 24) 1925.

THERMOSTABILITY OF FILTRABLE POISONOUS PRODUCTS PRODUCED BY PARATYPHOID-ENTERITIDIS BACTERIA

For many years the question of the production of toxic filtrable substances by members of the paratyphoid-enteritidis group has been the basis of much discussion. Several attempts have been made to discover the true nature of these poisonous substances and their thermostability.

Savage and White,[1] from their experiments, conclude that the "toxins of the Salmonella group possess a high degree of thermostability and can produce their effects after the destruction of the organisms themselves in the processes of canning food." In other words, food previously contaminated with these bacteria, even if sterilized in the process of canning, may produce food poisoning. This point of view, if substantiated, will be of decided interest to the canners of food and to government officials in America, especially since the foreign business in canned food is increasing. Reports of this phenomenon in food poisoning outbreaks in America, however, are singularly lacking, or no evidence has yet been adduced by which the findings of Savage and White may be substantiated. However, a search of the recent literature revealed data somewhat confirmatory of the British writers' statements. Geiger and his associates,[2] using mice as experimental animals and injecting intraperitoneally filtrate material from cultures, stated in 1924 that a production of poisonous filtrable substances is variable and that such substances are occasionally thermostabile, since they resist boiling at 100 C. for ten minute periods. These writers also report that in only one instance of twenty-three did three strains of *B. enteritidis* produce a filtrable poisonous substance. Ecker and Megrail[3] demonstrated the toxicity of the filtrate by intravenous injection into rabbits from single cell strains of *B. paratyphosus* B cultures. Boiling of the filtrates for three minutes did not disclose diminished toxicity. Likewise, Branham,[4] using rabbits and mice as experimental animals and injecting material intravenously, reported that poisonous filtrates of *B. enteritidis* resisted boiling for ten minutes and even autoclaving for ten minutes at 15 pounds pressure. This author, however, stated that the "toxicity seemed on the whole rather lessened after heating," yet "the symptoms of the animal given the heated material were the same as those caused by the unheated."

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[1] Savage, W. G., and White, P. B.: An Investigation of the Salmonella Group, with Special Reference to Food Poisoning, Privy Council Medical Research Council.

[2] Geiger, J. C.; Davis, Esther; and Benson, Harriet: Experimental Relation of the Bacteria of the Paratyphoid-Enteritidis Group to Poisonings by Food, Am. J. Pub. Health **14:** 578 (July) 1924.

[3] Ecker, E. E., and Megrail, Emerson: Production of Toxic Substances in Young Cultures of Single Cell Strains of B. Paratyphosus B, J. Infect. Dis. **37:** 546 (Dec.) 1925.

Apparently, one can conclude that poisonous filtrable substances are produced by the paratyphoid-enteritidis group and that these substances are occasionally thermostabile. These data, however, are based on experiments with animals, and symptoms occur only when the substances are injected intravenously and intraperitoneally. Geiger indicates that such filtrates when fed, particularly after boiling, appeared to be innocuous to rabbits when placed directly into the gastro-intestinal tract. Whether these toxic filtrable substances are split products of the mediums employed is doubtful. It has been alleged that animals can be partially immunized by suitable injections of toxic filtrates. Further evidence, however, must be made available before these products can be accepted as true toxins. In any event, the contention of Savage and White that sterile canned food suspected of being previously contaminated with the organisms of the paratyphoid-enteritidis group may cause food poisoning is a direct challenge to the canning industry in America, which heretofore has shown a most creditable attitude toward advancing scientific research.

SUNSHINE AND SKYSHINE

The importance of sunshine for the welfare of plants has long been recognized. It has also been suspected, to express it mildly, that the vegetative functions of animal kind in general and man in particular derive some sort of benefit from the same agency. Fresh air and sunshine have formed the basis of innumerable prescriptions to those who seek to regain good health or to retain it. Only recently, however, has the significance of the invisible radiations begun to be appreciated. As Hess[5] has pointed out, the ultraviolet rays constitute less than 1 per cent of the total solar radiations, and it is therefore all the more remarkable that they should prove to be essential to the well being of man. The young, rapidly growing infant thrives better when deprived of the visible rays than when deprived of the ultraviolet rays of the sun. The law of the vital importance of the minimum applies to the radiations of the sun; those rays which are furnished in smallest amount and in least intensity are nevertheless indispensable.

The exigencies of the prolonged cessation of the production of anthracite in the eastern cities of the United States have a possible bearing on the value of sunshine to mankind in the regions involved. The extensive use of soft coal under conditions to which it is not ordinarily applied, and the attendant production of smoke in places that have usually been comparatively free from this nuisance, have affected human happiness and welfare in various ways, some of which are not directly apparent. Hess has noted that the shorter radiations possess exceptionally little power of penetration; that the dust or the moisture of the atmosphere suffices to absorb the shorter ultraviolet rays and prevent them from reaching the surface of the earth, and that mist, fog and smoke intercept their progress to a greater or less degree. Ordinary window glass filters out all but the longer and less potent of these rays, allowing the passage only of denatured sunlight, which still retains all the semblance of the beneficent radiance of the sun. According to Leonard Hill[6] of the National Institute for Medical Research in Great Britain, daily measurements of ultraviolet radiation which are taken by voluntary observers in various parts of England show that the smoke pollution robs the big cities of from half to two thirds or more of this solar effect. Even in country places it is small in winter, owing to cloud and mist; hence part of the beneficial effect of an alpine winter-sports holiday or a midwinter vacation in a land of "undiluted" sunshine. Perhaps we are only beginning to realize one of the penalties that we are paying for the tolerance of the perennial smoke nuisance that coal strikes have accentuated so conspicuously during the past months. Sunburn may become a myth in the smoke-polluted air of some of the world's cities.

Direct sunshine is at times associated by some persons with sunburn, a reaction of the skin that may occasionally become severe instead of mildly health promoting. Hill has accordingly reminded us that the ultraviolet rays come from the skyshine as well as from the direct sunshine. Indeed, the skyshine may become the greater source, particularly when the sun is low in the heavens. There is no need of facing the danger of sunstroke in the attempt to benefit from beneficent rays. On the other hand, for those who cannot enjoy the transfer to sunshine climates during the less favorable winter season, the prospect of artificial illumination is likely to arise in many quarters. This is true particularly in the case of invalids and others to whom the long winter and sedentary indoor life may prove to be disadvantageous. The mere suggestion of a field of usefulness for artificial irradiation raises many questions and suggests potential dangers. The possibilities of "irradiated blood" are already being discussed.[7] Indiscriminate exploitation of "lamps" needs to be faced; but the menace of quackery or fraud should not be allowed to overshadow the possibilities of benefits. Conservative investigators like Steenbock and Hart[8] and their co-workers in Wisconsin have indicated the beneficial results to be expected by dairymen through direct irradiation of cows. There are indirect advantages to man through the products obtained, notably milk with a higher antirachitic potency. We are told that it appears advisable that cows should be exposed liberally to direct sunlight in order that they may be able to produce a first class product for human consumption as well as for the production of good calves. In lieu of exposure to sunlight and for the sake of cleanliness and convenience, if not efficiency, the time is probably not far distant when every producer of high grade milk may find it necessary to irradiate his cows artificially. It is also observed[9] that the amount of ultraviolet irradiation that a hen receives is an important factor in determining the antirachitic vitamin content of the eggs she produces when her feed is low in the antirachitic vitamin. Such contributions call for an open mind alert to the possible direct benefits that man may derive from both natural and artificial sunshine and skyshine.

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[4] Branham, Sara E.: Toxic Products of Bacterium Enteritidis and of Related Micro-Organisms, J. Infect. Dis. **37**: 291 (Oct.) 1925.

[5] Hess, A. F.: The Ultraviolet Rays of the Sun, J. A. M. A. **84**: 1033 (April 4) 1925.

[6] Hill, Leonard: Sun and Artificial Light Treatment, Brit. J. Radiol. **31**: 25 (Jan.) 1926.

[7] Eidenow, A.: The Bactericidal Effect of Ultraviolet Rays, Brit. J. Radiol. **31**: 35 (Jan.) 1926.

Current Comment

ORANGE JUICE AS A NUTRIENT

The introduction of supplementary meals, particularly during daily school periods, has attained widespread vogue as part of the program to combat the alleged widespread undernutrition of adolescents in this country. In this effort to accomplish better growth, precedence was early given to certain foods of undoubted nutrient virtue. "A scale in every school" and "a quart of milk a day for the growing child" have become nation-wide slogans. Among other highly beneficial foods, the orange has found a tested place,[10] according to a number of published investigations.[11] The index of the advantage produced by any nutritional program has usually been the actual rate of gain of body in comparison with the expected average. Generally this means approach to a more nearly optimum nutritive status. The question as to what advantage orange juice actually can bring about in the metabolic cycle has been approached by Chaney and Blunt[12] at the University of Chicago. The better gains in weight observed in the experimental children were far greater than could be accounted for by the value of the food fuel derived from the citrus fruits in the form of from 600 to 700 cc. of unstrained juice (20 to 23 ounces) daily. Calcium assimilation was decidedly benefited when oranges formed a part of the diet, the increased retention being considerably greater than the calcium added in the oranges and greater than might be expected from a stimulus to retention caused by a larger calcium intake. The increase in phosphorus retention was even more marked than that of calcium, more than three times as much phosphorus, both in grams and in percentage of intake, being assimilated when orange juice was added. Also the magnesium retention was increased, although to a less marked extent than that of calcium and phosphorus. Nitrogen assimilation was greater when orange juice was ingested, even though the nitrogen intake was not altered. It is well known that oranges contain noteworthy amounts of vitamins A, B and C. Also they are potentially alkaline, so far as their effect on the acid-base balance in the organism is concerned. Precisely how this fruit promotes the assimilation of some of the nutrient essentials is not yet known. Chaney and Blunt venture the tentative suggestions that the effect may be due to one or several of the following factors: the vitamins that promote the economical use of elements already present but not efficiently used; the additional calcium and phosphorus, which induces the retention of these and possibly other elements in excess of the amount added; some factor that stimulates a greater flow of hydrochloric acid in the stomach, causing a greater acidity in the upper part of the small intestine and a greater absorption of minerals; or the basic residue, which may favor normal activities in the growing body. Whatever the ultimate explanation may be, it is, as intimated before,[10] fortunate to learn that nutritive advantage may be secured in other ways when milk, for some reason, becomes unsuitable or unavailable.

THE METABOLISM OF MARANTIC INFANTS

There is something forbidding as well as much that represents obscurity in the use of the term marasmus. Added to this has been the tendency to associate vague hypotheses with this ill defined condition of unsatisfactory nutrition. Only a few years ago marasmus was described as due to autointoxication, whatever may have been implied by this much abused and still indefinite word. At an earlier period curiosity about the status of the marantic patient seemed to be satisfied by the statement that he was suffering from suboxidation, another unwarranted and ill defined implication. If marasmus were a condition clearly differentiated from simple chronic undernutrition, one might expect the possibility that the body operates "uneconomically" in such instances. Little by little, however, erroneous conceptions with respect to the subject are being eliminated. It has long been known that so-called marantic infants may fail to gain in weight even in the absence of clinical evidence of gastro-enteric disorder. The question has consequently arisen as to whether the failure is due to a defective absorption from the gastro-intestinal tract, or to some derangement of the general metabolism of the body. Despite the assumption that fat is more likely than the other nutrients to cause digestive disturbances in marantic infants, there is reason to believe, as Fleming and Hutchison[1] have pointed out, that there is no defect in the power of atrophic infants to absorb fat. For protein, the evidence of a capacity for utilization is equally satisfactory. The charges of unsatisfactory digestion and absorption of the foodstuffs have now been completely dispelled by the studies of Tisdall, Drake and Brown[2] of the University of Toronto, which leave no reason to assume that the marantic infant does not digest or absorb carbohydrate as readily as the normal infant. At any rate, there is no indication of any abnormality of the general carbohydrate metabolism other than the lowered concentration of fasting blood sugar. This is apparently the result of an inadequate reserve of glycogen. Marked abnormalities in heat production likewise have not been detected. Such facts prompt the advisability of increasing the food intake in the patients, for the calory requirements of the depleted organism are greater than those of a normal infant. According to the Toronto pediatricians, who recognize the need of building up the stores of fat and glycogen, it should be remembered that, on the basis of the mass of active protoplasmic tissue, 70 calories to each pound daily for the marantic infant is the exact equivalent of 45 calories to each pound daily for the normal infant. Marasmus will hereafter be treated far more rationally under the conviction that "the disturbance of metabolism in marasmus is simply the result of inanition and not the cause." The indication for liberal feeding is thus clear.

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[8] Steenbock, Harry; Hart, E. B.; Hoppert, C. A., and Black, A.: Fat-Soluble Vitamin, XXVI, The Antirachitic Property of Milk and Its Increase by Direct Irradiation and by Irradiation of the Animal, J. Biol. Chem. **66**: 441 (Dec.) 1925.

[9] Hughes, J. S.; Payne, L. F.; Titus, R. W., and Moore, J. M.: The Relation Between the Amount of Ultraviolet Light Received by Hens and the Amount of Antirachitic Vitamin in the Eggs Produced, J. Biol. Chem. **66**: 595 (Dec.) 1925.

[10] The Supplementary School Lunch, editorial, J. A. M. A. **81**: 2187 (Dec. 29) 1923.

[11] Newell, F., and Miller, E. W.: J. Home Economics **13**: 241, 1923. Chaney, Margaret S.: Comparison of Value of Milk and Oranges as Supplementary Lunch for Underweight Children, Am. J. Dis. Child. **26**: 337 (Oct.) 1923.

[12] Chaney, Margaret S., and Blunt, Katharine: The Effect of Orange Juice on the Calcium, Phosphorus, Magnesium and Nitrogen Retention and Urinary Organic Acids of Growing Children, J. Biol. Chem. **66**: 829 (Dec.) 1925.

ANTHRAX

The present year includes the fiftieth anniversary of the demonstration by Robert Koch of the infectious part played by *Bacterium anthracis* in the genesis of a malignant disease. Zoologically, anthrax is perhaps the most widespread of infectious diseases, many species being readily susceptible to it. The malady is also widespread throughout the tropical, semitropical and temperate climates. The mortality is high, even in the most civilized countries. During the last seven years, for example, 177 of 632 cases of anthrax reported in thirty-three states resulted in death. As some of the common sources of infection are well known, it might be expected that in an enlightened age the menace would be decreased even if there were no improvement in therapy in sight; but the recently published report[3] of the Committee on Industrial Anthrax to the American Public Health Association at St. Louis last September is not encouraging. Tannery products, such as hides, skins, hair and wool, have long been known as sources of danger, so that the products from many foreign areas are vigorously disinfected on entry to this country, if not before. Yet anthrax in the most important tannery states shows no indication of decreasing. There seems to be a distinct tendency to increase of anthrax from animal contact. The latest report on industrial anthrax warns our population to be on guard more vigorously than ever against the introduction of anthrax-infested animal products into industry. There is some satisfaction in learning that infections from shaving brushes seem to be decreasing, presumably as a result of the widespread publicity given in recent years to the menace.[4] Data regarding morbidity and mortality from anthrax are at best far from complete. The prevention of anthrax has usually been regarded as primarily a problem in animal industry; it is also a persistent danger to mankind, though its imminence is all too often disregarded.

IDENTIFYING THE CRIMINAL'S GUN

Until recently, medicolegal experts and criminologists have dismissed as impossible the problem of matching, with any certainty of success, a fatal bullet or shell to a suspected firearm. They conceded the possibility of an occasional convincing linkage, but for the most part scouted the idea that a general identification system, applicable in every instance, could be evolved. The chief cause for this skepticism seems to have been that no scientifically minded person had ever undertaken to investigate to the full the possibilities lying within this interesting field. There have, of course, always been those enthusiasts who were ready to venture an opinion as to the presence or absence of a criminal relationship between a given firearm and a lethal bullet or shell, but careful analysis has too often disclosed the fact that such opinions were rarely based on a comprehensive fund of scientific information. Of late years, however, numerous foreign investigators have become sensible of the importance of a comprehensive exploration of this relatively uncharted territory, and have made no little progress toward locating and recording some of its major landmarks. The report of the work done in the murder of Sir Lee Stack Pasha in Cairo last year[5] gives evidence that our English contemporaries are forging rapidly ahead in this phase of criminologic investigation. Now four American investigators—Waite, Goddard, Gravelle and Fisher—have evolved methods that appear greatly to outdistance those of all others heretofore engaged on this work, and to permit the uniform solution of its problems according to a definite scientific system applicable to every case in which a rifled arm figures (and all modern pistols and revolvers are rifled). Further, unless the fatal bullet is badly deformed or the bore of the lethal weapon seriously rusted, fouled or otherwise abused or neglected subsequent to the shooting, a positive identification is practically assured. A recently published report by Goddard[6] describes in detail the methods employed. These so impressed Deputy Police Commissioner Joseph A. Faurot of New York, the foremost American authority on the human fingerprint, that he[7] has described the work as "science as infallible, as practicable, as revolutionary and as reliable in criminology as *fingerprinting* itself." It appears that Waite and his associates are now in a position to answer, within certain reasonable limits, the following questions:

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[1] Fleming, G B, and Hutchison, H. S: Quart J Med **17**: 339 (July) 1924

[2] Tisdall, F F; Drake, T. G H, and Brown, Alan: The Carbohydrate Metabolism of the Marantic Infant, Am J Dis Child **30**: 829 (Dec) 1925.

[3] Industrial Anthrax, Am J Pub Health **16**: 42 (Jan) 1926

[4] Anthrax and Disinfection of Horsehair, London Letter, J. A M A **77**: 388 (July 30) 1921 Symmers, Douglas, and Cady, D. W.: Occurrence of Virulent Anthrax Bacilli in Cheap Shaving Brushes, ibid **77**: 2120 (Dec 31) 1921. Favorable Report on Anthrax Prevention Measure, General News, ibid **78**: 661 (March 4) 1922; Guarantees for Shaving Brushes, ibid **78**: 827 (March 18) 1922; Prohibiting Importation of Shaving Brushes, ibid **79**: 48 (July 1) 1922 Anthrax, Current Comment, ibid **84**: 207 (Jan. 17) 1925

[5] Smith, Sydney The Identification of Firearms and Projectiles, Brit M J. **1**: 8 (Jan 2) 1926.

(*a*) Here is a bullet from a body. What make and model of arm fired it?

(*b*) Here is a fatal bullet, and a suspected arm. Did it fire the bullet?

(*c*) Here is a shell found on the scene of a murder. Here is a suspected arm. Did it explode the shell?

In view of the present prevalence of gunshot wounds by small arms as one of the corollaries of our so-called crime wave, the development of an identification system which will match a lethal projectile or shell to the arm in which it was fired, or will from a study of the bullet alone name the make and model of weapon from which it issued, is particularly timely.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Held in Chicago, Feb. 15, 16, 17 and 18, 1926

(Continued from page 758)

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

February 16—Afternoon

The Importance of Research in Educational Institutions

Dr. John M. Dodson, Chicago: Twenty years ago medical schools were just beginning to awaken to the fact that research is an indispensable function of the medical schools. The change has been great since that time. And yet in the last year or two the charge has been made that research has no place in the program of medical education for general practice. Research is an indispensable function of the university. The instructional side of university work needs the inspiration of research activities going on within its walls. Research must have new investigators selected when a large body of students are passing under the observation of competent workers. It is not possible for an educational institution to secure the best type of instructors unless research is encouraged and supported. Research is the best method of teaching the student to observe, to record his observations truthfully and to reason from these facts. That is exactly the type of mind that is required at the bedside. It is a difficult method for the teacher because he must know thoroughly his student. It is an expensive method. The cost of investigative work should be borne by private beneficence or by state funds, because the results of such work accrue to the benefit of the community. I would say that every student of medicine should give time to some pieces of research work not for the purpose of making him a research worker or a teacher but for the purpose of fitting him for general practice at the bedside. Every practitioner ought to continue this type of work in connection with his practice. In that way he will improve his ability as a practitioner and will add to his reputation. Unless we make provision for all our students to undertake work of this type, we shall fail to take advantage of the most important method of medical education that we have.

DISCUSSION

Dr. Arthur Dean Bevan, Chicago: The fundamental conception of medicine is that of research. Our everyday work is research. A clinical problem is presented to us, and it is a piece of clinical research to determine the diagnosis in that particular case.

An Internship as a Part of Medical Education

SELECTION OF A HOSPITAL FOR INTERN TRAINING

Dr. Henry A. Christian, Boston: This paper will be published in full in The Journal.

PURPOSE OF THE HOSPITAL INTERNSHIP

Dr. Ernest E. Irons, Chicago: This paper will be published in full in The Journal.

DISCUSSION

Dr. James B. Herrick, Chicago: Where we compel the student, as we do at Rush, to take a five year course before he is fully graduated as a doctor of medicine, it is our duty to see to it that he goes to a hospital that is suited to educate him in this fifth year. We worked out a questionnaire that is sent to a hospital applying to us for interns. Among the questions that are asked are the character of the hospital, whether it is general or special, the number of beds, the number of interns, whether the service is rotation, mixed and so forth, or departmental, the length of intern service, compensation, how the interns are appointed, whether by examination or direct appointment, whether the hospital has an organized staff, whether a pathologic conference is maintained, how many necropsies were obtained in the last year, whether the interns are allowed to examine patients, and facilities for laboratory and roentgen-ray work. In a certain hospital the number of deaths was 200. The number of necropsies was one. We simply turned the hospital down. We are skeptical of hospitals that pay from $50 to $100 a month to an intern. We write to physicians in the town or city where the hospital is located to get their opinions. We get reports from our interns. Then, in the last place, we find out about hospitals by making our own personal observations. Many a hospital has been admitted to our ranks because we know the atmosphere in that hospital is good. Each student in his fifth year has a supervisor, a member of our faculty, whose duty it is to keep in touch personally and by letter with that student, and by inquiry through the authorities and through the student himself to learn exactly what he is doing.

Dr. Jennings C. Litzenberg, Minneapolis: As we at Minneapolis call the freshman year a year in medicine, we call our committee the seven year committee. We will not consider any hospital for the seventh year unless it is approved by the American Medical Association and by the American College of Surgeons. It must have 100 beds, a laboratory manned by a real pathologist, and adequate roentgen-ray equipment, manned by a physician. Our committee investigates hospitals through questionnaires and through physicians. There is a supervisor of the intern, a member of our faculty. In hospitals located at a distance, we ask some man who is in sympathy with these ideas to supervise the interns. His duties are, first, to see that the intern gives every effort that he should to the hospital, and, second, that the staff gives the proper clinical instruction. Our reason for maintaining this requirement of the seventh year for the M.D. degree is that we believe the school should have a voice in the hospital to which the student goes. One thing which I think is quite important is that it puts the student under our discipline. We have a rule that no student may accept an appointment in a hospital which pays more than $25 a month, plus a bonus, if they wish, for distant hospitals. A student must have time and encouragement and direction in clinical reading. We find out from the student what he thinks about the hospital. We find out twice a year what the hospital thinks about the student. The students are allowed to choose the hospitals to which they shall go in the order of their class standing. I believe that the chairmen of the fifth year committees in the various schools should get together and exchange their experiences.

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[6] Goddard, C. H.: The Identification of Projectiles in Criminal Cases, Mil. Surgeon, February, 1926, LVIII, 142.

[7] Stout, W. W.: Fingerprinting Bullets, Saturday Evening Post, June 20, 1925.

Dr. Bernard F. McGrath, Milwaukee: The following data are presented principally for the purpose of showing that our supervision of the fifth year at Marquette has been indirect. There is required from the student one case record each quarter. Subjects of case records are: (1) medicine; (2) surgery; (3) obstetrics; (4) pediatrics; (5) neurology. For the sake of uniformity and completeness, a special case record form was devised. This is supplied by the school. A thesis based on clinical laboratory research is to be submitted not later than sixty days before the date of graduation. For the sake of uniformity, the paper for the theses is supplied by the school, together with the form to be followed. The supervisors are named by the hospital and appointed by the school as extramural instructors. The supervisor signs an agreement to observe the school's rules and regulations for the fifth year, and is requested to make suggestions for improvement of this year. The supervisor's function is to see to it that the student gives and receives due service. The fifth year shall be served in a hospital of not less than 100 beds with a rotating service, which is on the approved list of the Council of Medical Education and Hospitals of the American Medical Association. At the end of the year the senior students are assembled, instructed, and addressed on the importance of the work of the fifth year. The final estimate of the student is made from the average of the following factors: (1) the grade of his four case records; (2) the grade of his thesis, and (3) the grades given by his supervisors. There has been marked improvement in the quality of the theses. The fact that one set is sent to the Army Medical Library and that the other is bound and filed in the school library has undoubtedly stimulated the efforts in this regard. It is obvious that direct supervision of the fifth year is the desideratum. But such supervision is not practicable. The decision lies between indirect supervision and no supervision. We are of the opinion that a well organized, indirect supervision is preferable to no supervision.

Dr. Edward V. L. Brown, Chicago: Many things speak for the rotation service, and, above all else, the avoidance of making specialists out of fifth year students. It is very difficult, if not impossible, to give every intern a service in each of the clinical branches. Some selection is, therefore, necessary, but this need not be destructive of the general principle of completeness. The most important salaried members to be added to general hospital staffs are staff residents. They are young men who, having completed the general hospital service, are going to take up a special field of work. This man himself must be very thoroughly instructed. After that, he can, in turn, teach the men who are taking up the service for the short periods.

Dr. Irvin Metzger, Pittsburgh: As a member of the state board, I look at it from another angle. Twelve years ago, Pennsylvania began intern training. We said, "If the law requires a man to spend an extra year of time before he can secure a license, we have a right to make that year worth while for him." In order to organize the hospitals to make worth while this intern year, we immediately said, "There shall be in each department some outstanding person who can supervise that department and be responsible for the work of the interns within that department." We stress that there shall be developed in the intern a sense of responsibility. We say, therefore, "Ask the intern as to the condition of the patient, not the nurse. Get the intern to sign the reports." We must fix the responsibility from beginning to end. We want apprentice service covering every department: medicine, surgery, gynecology, obstetrics, laboratory work, roentgen-ray work and anesthesia. One year is not sufficient for that type of service. Interns should have general, practical experience in every department so that they will be able not only to practice safely but to evaluate properly in relation to the specialty which they may select afterward from the whole field of medicine.

Dr. Ray Lyman Wilbur, Stanford University, Calif.: By making a list of the things that all medical men ought to know how to do and by putting that in the hands of the person in charge of the interns, it is a comparatively simple thing to have each intern in his year of service get that actual experience. That is a more important point than whether we have a rotating service or not.

Dr. E. Stanley Ryerson, Toronto: In the University of Toronto we have developed what we consider a hospital extern year under the supervision of the university, after the student has spent four years, two in the fundamental sciences, anatomy and physiology, two in pathology and clinical subjects. The essence of the type of instruction is that of trying to give him personal experience in connection with individual cases during the early clinical years. When he comes to his final year, he is studying patients. The patient may be turned over to the surgeon. The patient may die and go to necropsy. He sees the case there and is gaining, under supervision of the staff, actual experience which he can afterward use in practice. He is studying patients, losing the idea that he is studying the subject of medicine or surgery, or a particular university subject. In spite of this it is evident that the student does not feel that he has completely finished his education, because we find that at the end of that year in the course more than 80 per cent of our men voluntarily take internships.

Dr. Arthur Dean Bevan, Chicago: Many of our American schools devote the major part of their senior year to work of this kind, and our American students do just as the Toronto men do. The intern year should be required both by the state board and by the medical school. Although I feel quite in favor of the rotating service, I do not think it is fair to take the rigid position that single service should not be accepted.

Dr. Henry A. Christian, Boston: The hospital is vitally concerned. It does not seem to me that what Dr. McGrath has presented as something to require of the student before licensure constitutes the thing that is satisfactory from the point of view of the hospital. If the patients are to be well taken care of, somebody else has to do it.

(To be continued)

DEMONSTRATION OF PERIODIC EXAMINATIONS OF APPARENTLY HEALTHY PERSONS AT THE DALLAS SESSION

Dr. D. W. Carter, associate professor of clinical medicine at Baylor Medical College, Dallas, has arranged for a series of demonstrations of periodic examinations of apparently healthy persons to be given during the annual session. Announcement of the hours of these demonstrations will be made in a later issue of The Journal and in the daily bulletins at Dallas.

Chinese Medical Sayings and Proverbs.—1. A doctor cannot cure himself (physician cure thyself). 2. The unlucky doctor treats the beginning of an illness; the fortunate doctor, the end. 3. A Huang Lu physician (a quack). 4. A quack has fish for breakfast and meat for dinner. 5. Quack doctors kill people. 6. To put one's life into the hands of a quack is to ask an ignoramus to correct an elegant essay. 7. The prescription is good but the medicine bad. 8. Quacks puncture and plaster, but only use spurious drugs. 9. Altering the prescription without changing the medicine. 10. Without perseverance, one cannot even become a priest-doctor.—*China M. J.* **39:**1100 (Dec.) 1925.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Another Foreign "Graduate" Arrested.—Paul Sandfort, who was recently arrested in Berkeley and released under $1,000 cash bail, is reported to have had surgical instruments, medicines, a folding operating table, and a stamp which read "Paul S. Sandfort, M.D., Ph.D.," among his effects. In 1919, the New York Board of Medical Examiners reported that a Paul Sandfort had some difficulties in that state and that he claimed to have been graduated in medicine at the University of Berlin; an inquiry addressed to the university about that time disclosed, however, that Paul Sandfort was not a graduate in medicine of that school.

Society News.—The Southern California Medical Association will meet at San Diego, March 26-27. Clinics will be held at various hospitals, and members are invited to visit the Scripp Metabolic Clinic at La Jolla. Among others, Dr. Leonard G. Rowntree of the Mayo Foundation, Rochester, Minn., will speak on "Progress in Relation to the Kidney and Liver."——Dr. Arthur Dean Bevan, Chicago, clinical professor of surgery and chairman of the department, Rush Medical College, addressed the Los Angeles County Medical Association, March 4, on "A Restudy of Surgery of the Bile Tract."——The Southwestern Pediatric Society will meet, March 22, at the University Club, Los Angeles; Dr. Alfred S. Warthin, professor of pathology and director of the pathologic laboratory, University of Michigan Medical School, Ann Arbor, will speak on "Swift's Disease or So-Called Erythredema," and Dr. Emanuel C. Fleischner, San Francisco, on "Convalescent Serum in Poliomyelitis."——Dr. Harold Brunn, San Francisco, addressed the San Diego County Medical Society, March 9, on "Chest Surgery."

CONNECTICUT

Gift for Research in Chemistry.—The president of Wesleyan University, Middletown, announced, March 11, a gift of $40,000 by an anonymous donor for research work in chemistry. The donation is in honor of the late Wilbur Olin Atwater, professor of chemistry at Wesleyan, and follows the recent laying of the corner stone of the new $350,000 Hall Laboratory of Chemistry at the college.

Health in New Haven.—New low mortality records were established in New Haven during 1925 for tuberculosis (53 deaths per hundred thousand of population), and for typhoid fever, of which only three persons died during the year; there was an outstanding low death rate for diphtheria (1.7). There was a decline in the number of births in New Haven. About 70 per cent of the school children of the city and about 2,000 preschool children have been immunized or found to be immune from diphtheria. New Haven was one of the few cities in the country, which, during 1925, reduced its fatalities from automobile accidents; even so, there were twenty-five persons killed by automobiles.

DISTRICT OF COLUMBIA

Senate Bill Provides for Chiropractic Board.—Mr. Capper introduced a bill in the Senate, February 26, which would create a board of chiropractic examiners in the District of Columbia, consisting of three members selected by the commissioners of the district from chiropractors of the different schools of chiropractic practicing within the District of Columbia, no two members of which shall be from the same school. The Medical Society of the District of Columbia, through a committee of six members, has protested against the provisions of this bill to the district commissioners to whom the bill was referred for an opinion by the senate committee.

FLORIDA

First Infant Welfare Station.—The first infant welfare station in Florida was opened in Jacksonville, March 3. The city health officer, Dr. Noble A. Upchurch, plans to maintain several other stations in the city along the line of preventive pediatrics. The infant welfare work is in charge of Dr. Thomas E. Buckman.

County Hospital Opened.—An announcement has been made of the opening of the Duval County Hospital, Jacksonville; this is a general hospital of 230 beds, erected at a cost of $500,000, and financed by a three mill tax; one half of the beds are devoted to the tuberculosis section. There is a well organized staff of which Dr. John E. Boyd is president.

Palm Beach Charity.—More than $100,000 was raised for the Good Samaritan Hospital of West Palm Beach at a benefit performance of "Ziegfeld's Palm Beach Nights," March 8, at the Club de Montmartre, the box office receipts alone exceeding $60,000. The only box is said to have sold for $2,000; various other seats sold for $1,000, and some of them were again resold for as much as $3,000. Among those who contributed to the financial success of the occasion were Paris Singer, president of the club; Anthony J. Drexel Biddle, Jr., vice president of the club; Mrs. Vincent Astor; Mrs. William Hayward; Mrs. Frederick S. Fish; Mrs. James P. Donahue; Horace Stebbins; Howard Brokaw; Jesse L. Livermore; Mrs. Horace E. Dodge, and Dr. Willey L. Kingsley.

ILLINOIS

Miscellaneous Items.—The governor has designated the week beginning Sunday, April 25, as "health promotion week"; the object being to focus the attention of communities on matters of health and disease prevention.——The Adams County Medical Society and the Adams-Hancock Dental Society held a joint meeting at Quincy, February 18; the subject for discussion was "Cooperation Between the Dentist and the Physician."——Dr. George Klumpner has resigned as associate physician at the Illinois Valley Hospital and Ottawa Tuberculosis Sanatorium, to engage in private practice.——Citizens of Beardstown will vote at the April election on the imposition of a tax of 3⅓ mills for the erection of a public hospital.——The Kane County Medical Society, Elgin, went on record, February 11, as favoring the appointment of a physician as coroner of Kane County to succeed the late Eugene H. Norton; a committee was appointed to confer with the county board of supervisors, March 9.——Dr. Russell D. Herrold, Chicago, addressed the Rock Island and Scott County Medical Societies, Rock Island, March 9, on "Treatment of Venereal Diseases."

Chicago

Personal.—Drs. Kellogg Speed, president of the Chicago Surgical Society, and Karl A. Meyer, assistant warden at the Cook County Hospital, are en route to Rome to attend the International Surgical Congress, April 6-11.

Dr. Castellani to Lecture.—The University of Illinois College of Medicine announces that Dr. Aldo Castellani, professor of tropical medicine at Tulane University of Louisiana Medical School, New Orleans, will deliver the Gehrmann Memorial Lectures in the gymnasium at 508 South Honore Street, March 23-25, at 4 p. m., on "Fungi as Causative Agents of Disease in the Tropics and in the Temperate Zone," illustrated by lantern slides. Physicians are invited to attend.

Professor Parr Wins Chandler Medal.—The chairman of the Chandler lecture committee announced at Columbia University, New York, March 8, that the Chandler Gold Medal for 1926 had been awarded to Samuel W. Parr, M.S., professor of applied chemistry, University of Illinois, "in recognition of distinguished achievement in chemical science." Professor Parr will deliver the annual Chandler lecture in Havermeyer Hall, Columbia University, April 23, on "The Constitution of Coal." The Chandler Medal last year was awarded to Edward Calvin Kendall, D.Sc., head of the clinical section of the Mayo Foundation for Medical Research.

Four Million for Northwestern.—The trustees of Northwestern University announced, March 13, that Mrs. A. Montgomery Ward had made another gift of about $4,000,000 for the purpose of enabling the university "to obtain the highest quality of personnel for the instructional and research staff of your medical and dental schools." About two years ago, Mrs. Ward made a gift of $4,000,000 for the erection and maintenance of the Montgomery Ward Memorial Medical-Dental Center, which will be a fourteen story structure with a five story tower. The medical school will occupy the first seven stories, the dental school the next six stories, and laboratories the fourteenth story. The tower will be used for the downtown administrative offices of the university.

Judge Requests Medical Society to Appoint Alienists.—Judge Marcus Kavanagh a few days ago requested the Chicago Medical Society to appoint three alienists to make a mental examination of a prisoner sentenced to for murder, and Dr. Malcolm L. Harris, president of the society, appointed Drs. Ralph C. Hamil, Charles F. Read and Lewis J. Pollock. Their testimony is said to have determined the verdict of the jury, which was that the prisoner was sane; previously, two alienists employed by the defense are said to have pronounced him insane while two other alienists employed by the prosecution had pronounced him sane. Judge Kavanagh's plan of obtaining impartial evidence of alienists for insanity hearings is said to be new.

Society News.—Dr. Frederick M. Allen, Morristown, N. J., will address the Chicago Medical Society, March 31, on "Nephritis."——The Chicago Medical Society is mailing to all members a copy of the "Health Examination Manual" compiled by the American Medical Association, and has appointed Dr. James H. Hutton chairman of the committee for demonstrating uniform health examination according to this manual.——Dr. Herman L. Kretschmer addressed a joint meeting of the Chicago Urological and the Chicago Medical Societies, March 17, on "The Rôle of the Urologist in General Diagnosis" (lantern slide demonstration); Dr. Louis E. Schmidt on "Perirenal Inflammation," and Dr. Charles M. McKenna on "Study of Methods Used in the Diagnosis of Renal Tuberculosis" (lantern slide demonstration).——The council of the Chicago Medical Society has appointed a committee consisting of Drs. Jeremiah H. Walsh, Clarence B. King and Frank R. Morton to study the Illinois industrial act as it applies to fees submitted by physicians under this act.

LOUISIANA

Preliminary Report on Narcotic Situation.—Dr. Carleton Simon, New York, who, at the request of the Louisiana State Board of Health is making a narcotic survey of the state, made a preliminary report after an investigation of three weeks. He checked up and amplified lists of drug addicts furnished by the law enforcing agencies, and interviewed many addicts confined in various jails, also scores of addicts at large, and obtained information from penal records and other sources. He says it appears that New Orleans has thousands of drug addicts who buy narcotics from street venders. The U. S. Narcotic Unit has not sufficient personnel to cope with the situation, especially since the central office of the unit is at a distance outside the state. The federal Harrison Narcotic Law is sufficient to control the activities of physicians and pharmacists if enforced, but the care of addicts and the control of other narcotic problems is a responsibility of the state. There is said to be the need of a hospital or colony where addicts may be treated for drug addiction without having to go to a penal institution for such relief. Dr. Simon is drafting a state law which covers the urgent requirements and supplements certain sections of the federal narcotic law and insures a proper working police law; it has a section also which pertains to the criminal use of cannabis for which there is no provision under the federal law. There are, it appears, thousands of young persons in Louisiana addicted to cannabis; addicts call this weed mariahuana, muggles, moota or bombalachi.

MAINE

Hospital News.—Mr. Bennet S. Ferguson, a native of Dixmont, and at present a resident of Brookline, Mass., has established a $10,000 fund at the East Maine General Hospital, Bangor, in honor of Daniel Goodwin Ferguson and Nancy McIntyre Ferguson; the income is to be for the benefit of worthy inhabitants of Dixmont.

Physicians Elected Mayors.—At the March elections in municipalities in Maine, the following physicians were elected mayors of cities: Dr. George C. Precourt, mayor or Biddeford, March 8; Dr. Lewis Hodgkins, reelected mayor of Ellsworth, March 1; Dr. Foster C. Small, mayor of Belfast, March 8.

MASSACHUSETTS

Savero Pacheco Silva Sentenced.—Dr. Savero Pacheco Silva of Boston, formerly of New Bedford, was found guilty recently by a jury of the larceny of $59,178, it is reported, and was sentenced to the state prison for from six to ten years. Dr. Silva, who was connected with the Hamilton Drug Company and the American Drug Company, 6 Beacon Street, Boston, is said to have borrowed these funds under false pretenses from physicians, business men and other acquaintances in order to pay his debts.

Society News.—Dr. Clarence L. Starr, professor of surgery, University of Toronto Faculty of Medicine, Canada, addressed the Harvard Medical Society at the Peter Bent Brigham Hospital, Boston, March 9, on "Inflammatory Conditions in Bone."——The Essex South District Medical Society met at the Lynn Hospital, Lynn, March 3, for a clinic, which included, among others, (1) a case of hydrophobia with negri bodies in the brain; (2) a case of brain tumor; (3) multiple myeloma; (4) an obstetric case. At a dinner following the clinic, Dr. Charles E. Mongan, Somerville, spoke on "Some Medical Problems"; there were sixty physicians in attendance.

NEW HAMPSHIRE

Towns Vote to Obtain Physicians.—At the city elections this spring, a number of communities in New Hampshire will vote to determine what action they will take under the state law which provides for the support of a physician by taxation. The law has been in effect three years, but only one town has voted to make an appropriation for a physician. Epsom, three years ago, voted to pay $1,000 to any physician who would come to the town, but as yet no one had grasped the opportunity. Among the towns voting on this question now is Chester, where it is necessary, when medical assistance is needed, to call a physician from Derry. Deep snow has made it difficult to obtain prompt medical assistance, and some communities have purchased tractor snow plows, *it is said, largely to insure medical attendance in case of* emergency.

NEW YORK

Collection of Human Milk.—The Bureau of Health of Rochester in 1925 collected 14,705 ounces of human milk, for which it paid 10 cents an ounce, and was thus enabled to feed fifty-five babies at a net cost of $2,274.60; thirteen of the thirty-three mothers who supplied the milk were Americans.

Society News.—The twentieth annual banquet of the Women's Medical Society of New York will be at the Hotel McAlpin, New York, March 29. Tickets may be obtained from Dr. Harriet F. Coffin, 426 East 26th Street, New York ($4).——Dr. Edwin P. Maynard, Jr., gave an address at the New York Heart Association, 244 Madison Avenue, March 11, on "Rest and Exercise."

Bulletin on Silicosis.—The Bureau of Industrial Hygiene of the New York State Department of Labor has issued a special bulletin comprising a summary of the literature on silicosis. The bulletin is now available, and will be sent without charge on request to the Director, Bureau of Industrial Hygiene, New York State Department of Labor, 124 East Twenty-Eighth Street, New York.

New Medical Practice Bill.—The new medical practice bill for the state of New York is now before the legislature and hearings are being held in Albany. A committee authorized by the house of delegates of the state medical society in 1925 drew up a bill, which was then submitted to the council of the state medical society and then to the regents of the state of New York, who made changes to adapt the bill to the constitution and to established customs of administration. The bill is therefore the combined work of physicians, lawyers and the state education department. Some special features are: (1) A clear definition as to who may practice; (2) "Doctor of Medicine" never to be conferred as an honorary title; (3) use of title "doctor" to be limited to physicians; (4) registration annually while in practice; (5) legality of license not to be affected by failure to register; (6) attorney general to prosecute violators. A conference of legislative committees of the county medical societies was held in Albany, February 10, to consider this bill; the state society officers and various members of the state legislature were present, this conference voted to support the new practice of medicine bill. The bill appears in the *New York State Journal of Medicine*, March 1.

New York City

Memorial Room Proposed.—A movement was started, March 3, at a dinner at the Hamilton Club, Brooklyn, for a memorial room in the proposed wing of the Kings County Medical Society Building at Bedford and Atlantic avenues to perpetuate the memory of Brooklyn's pioneers in obstetrics and gynecology; $7,000 was contributed at the dinner toward equipping the room, which will be a combination library, museum and auditorium.

Women in Hospital Work.—A recent report by the Hospital Information Bureau of the United Hospital Fund shows that women are superintendents of sixty of the 134 public and private hospitals in this city; that 26 per cent of the institutions canvassed have women, exclusively, on their boards, and that 50 per cent have men only on the boards. It was shown also that 56 per cent of the patients in the general hospitals in the city are women.

Dr. Harris Honored.—A group of persons prominent in public health activities of which Dr. Linsly R. Williams was executive chairman, arranged a dinner in honor of Dr. Louis I. Harris, city commissioner of health, at the Commodore Hotel, March 5, at which the new health commissioner was given opportunity to say what his department can do to improve the city health; among the speakers were the mayor; Dr. Livingston Farrand, president, Cornell University; Prof. C. E. A. Winslow of Yale University; Dr. Sigumund S. Goldwater, director of Mount Sinai Hospital, and Dr. James A. Miller, president, New York Tuberculosis and Health Association.

Personal.—Dr. Thomas H. Haines, former director, division on mental deficiency, National Committee for Mental Hygiene, has resigned to engage in private practice in this city; he is now abroad for postgraduate study.——Mr. George Blumenthal, president, Mount Sinai Hospital, New York, gave $60,000 to the French Public Assistance Hospital, Paris, France, February 22, for a nose and throat clinic in the children's department.——Frederick L. Hoffman, Ph.D., is preparing to make an extended trip to Mexico and Guatemala to study Mexican mortality and the effects of tropical conditions on the duration of life among Europeans and white settlers of North America.——Dr. George G. Ward, Jr., addressed the Academy of Medicine of Northern New Jersey, Newark, February 17, on "Treatment of Cancer of the Uterus."——Dr. George D. Stewart has been appointed medical director of the Broad Street Hospital.——Dr. Henry D. Furniss has been elected president of the Medical Alumni of the University of Virginia.

Report of Committee on Health Examinations.—The Medical Society of the County of Kings has published the report of its committee on public health on periodic medical examinations of apparently healthy persons. This is an account of the experiences of its members and co-workers with health examinations, including reproductions of most of the posters and leaflets, the form letters sent to physicians in Brooklyn, and blank forms for the examination of adults and children. A limited supply of this seventy-seven page report is available for non-members of the Kings County Medical Society. A second edition probably will be necessary, and the committee desires to anticipate the size of the edition. Persons who desire copies should advise the secretary, 1313 Bedford Avenue, Brooklyn, as soon as possible. Fifty copies ordered in advance will cost eighteen dollars; 100 copies, twenty-five dollars, and 1,000 copies, $125, plus transportation charges. Single copies will be sent postpaid for fifty cents.

Society News.—Dr. Alfred F. Hess addressed the New York Electrotherapeutic Society, March 3, at the academy of medicine, on "The Newer Aspects of Ultraviolet Therapy."——Dr. Haven Emerson addressed the Academy of Medicine of Cleveland, February 19, on "Periodic Health Examinations."——Dr. John M. Wheeler has been elected president of the New York Ophthalmological Society for 1926; Dr. Francis W. Shine, vice president, and Dr. John H. Dunnington, secretary-treasurer.——Dr. William A. White, superintendent, St. Elizabeth's Hospital, Washington, D. C., lectured at the academy of medicine, March 2, under the auspices of the National Committee and the State Committee for Mental Hygiene and at the New York Neurological Institute on "Psychologic Methods of Cure"; Dr. White also lectured at Cooper Union, Eighth Street and Astor Place, in the evening, March 2, under the auspices of the People's Institute and the American Association of Medical Progress, on "The Adjustment and Unity of the Organism."

"Stagger System" to Relieve Congestion on Transit Lines.—The New York City health commissioner has been holding conferences with representatives of the labor unions and the merchants of the city to consider the proposal of introducing the "stagger system" to relieve crowding on the transit lines during the rush hours. By this method some people will go to work at different hours from others. It is expected that a plan will be submitted in the interest of health and humanity, which will be accepted voluntarily. It was intimated, however, that if an agreement cannot be reached, the situation may justify the board of health issuing orders to relieve the "present inhuman conditions of overcrowding." The labor leaders favored the plan, stipulating only that there be no increase in the hours of labor, and Dr. Harris assured them that the plans under consideration would merely shift from fifteen to thirty minutes the time of starting to work. The preliminary conferences showed, generally, favorable response to the proposal. The stagger system was introduced into the city during the influenza epidemic of 1918, by a health department order, which was in effect from October 5 to November 3.

NORTH CAROLINA

Chiropractor Sued.—D. L. Ragland, a chiropractor in Danville, has been sued for $5,000 damages, it is reported, by a patient who is said to allege that the tip of her spinal column was broken, as a result of treatment, causing six weeks' illness and necessitating hospital care.

Physicians Do Not Have to Work Without Pay.—The attorney general of North Carolina has ruled that the law enacted by the last legislature requiring physicians to examine without pay applicants for marriage licenses is void and of no effect. He is reported to have said that there is no provision in the constitution by which any class of persons is compelled to work for the community without charge (The Journal, March 13).

Hospital News.—Dr. Emanuel Libman, New York, who, while on vacation in Asheville, was invited to address the medical staff of the U. S. Veterans' Hospital no. 60 at Oteen, has completed two series of lectures on diseases of the heart.——The Pitman Hospital, Fayetteville, has begun the construction of a $100,000 addition.——The Sarah Elizabeth Hospital, Henderson, has been sold and is being converted into a hotel.——The $25,000 addition to the Angel Hospital, Franklin, will be opened for patients, May 1.——Dr. Joseph Rush Shull has been appointed roentgenologist to the St. Peter's Hospital, Charlotte.

Miscellaneous Items.—The commissioners of Perquimans County have voted to establish a county health department with a whole-time health officer in charge.——The city of Durham is having a complete malarial survey conducted under the auspices of the state board of health and the city and county, with a view to the elimination of that disease.——The patients at the state tuberculosis sanatorium at Montrose have started publishing a newspaper known as the *Sanitarium Sun*.——Dr. James P. Matheson has been elected a director of the Charlotte Chamber of Commerce.——Dr. Jenness Morrill, Falkland, has been appointed a member of the board of trustees of the state school for deaf and dumb at Morganton.

OHIO

Personal.—Prof. George O. Higley, Ph.D., head of the department of chemistry, Ohio Wesleyan University, has been appointed health officer of Delaware, to succeed the late Dr. Cyrus W. Chidester; Dr. Maynard S. Cherington was acting health officer of Delaware pending the appointment of a commissioner of health.——Dr. Clarence D. Barrett, Wooster, has been appointed city health officer of Mansfield, in which position he will succeed Dr. William De Kleine, who resigned to take charge of the child health demonstration at Fargo, N. D. Dr. Barrett has been the health officer of Wayne County.——Dr. Henry F. Bean, Portsmouth, celebrated his fiftieth year in the practice of medicine, March 1.

Dr. Ray Appointed Director of Department of Ophthalmology.—Dr. Victor Ray, Sr., Cincinnati, was appointed head of the department of ophthalmology of the University of Cincinnati College of Medicine, March 2, to succeed Dr. Robert Sattler, resigned. The trustees of the university voted unanimously to appoint Dr. Sattler, who has been head of the department since 1882, as emeritus professor of ophthalmology. Dr. Ray became an assistant to Dr. Sattler in 1899, assistant clinical professor in 1909, and professor in 1916; he is also assistant director of the ophthalmologic service at the Cincinnati General Hospital, and chief clinician in that service at the outpatient dispensary.

Society News.—The Greene County Medical Society has taken formal action on the suggestion of the state association committee on periodic health examinations, and conducted a demonstration and examination of its own members at Xenia, January 7; twenty of the thirty-two members presented themselves for examination; five others had been examined elsewhere or were unavoidably absent.——Dr. William Ravine addressed the Cincinnati Academy of Medicine, January 25, on "Hypertension Due to Psychic Traumas."——Dr. Albert L. Brown, Cincinnati, addressed the Highland County Medical Society, Hillsboro, on "The Use of the Ophthalmoscope in General Medicine."——The Seneca County Medical Society entertained members of neighboring county societies at a dinner recently at Tiffin, at which Dr. John Phillips, Cleveland, gave an illustrated lecture on "Diagnosis and Treatment of Gastric Ulcer" and "Angina Pectoris."

OREGON

Society News.—About seventy-five physicians of Portland were vaccinated against smallpox at a meeting of the city and county medical society, March 3, by the city health officer, who also used the occasion to demonstrate the technic of vaccination. A severe type of smallpox prevails in several communities in the Northwest, although no serious outbreak has occurred yet in Portland.

Personal.—Dr. Max M. Dittebrandt has been appointed health officer by the county judge for his district.——Dr. Walter T. Brown, head of the Marion County Child Health Demonstration, has been elected county health officer; Dr. Vernon A. Douglas, Vernonia, will have charge of the field work.——Dr. Leon W. Hyde has resigned as health officer of Washington County and will engage in private practice at Astoria.——Dr. William T. Phy, of the Hot Lake Sanatorium, has been elected president to the state board of health.——Dr. Carl G. Patterson, Baker, and Dr. Joseph F. Wood, Portland, have been appointed members of the state board of medical examiners, succeeding Drs. Urling C. Coe and Roy C. McDaniel of Portland.

PENNSYLVANIA

Hospital News.—The fifth annual conference of the Hospital Association of Pennsylvania and exposition of hospital supplies and equipment will be held at the Hotel Schenely, Pittsburgh, April 13-15.

Personal.—Dr. John W. Wright, for nineteen years attending physician to the state tuberculosis clinic at Erie, has resigned, effective April 1, and his wife, Dr. Katherine H. L. Wright, it is reported, has been appointed to succeed him as chief of the clinic.

Postgraduate Course for General Practitioners.—The University of Pittsburgh School of Medicine, Pittsburgh, will give a two weeks' postgraduate course for general practitioners, beginning June 1, and a third week of laboratory instruction in simple methods to those interested; diseases of the cardiovascular system will be given especial attention. An outline of the course will be mailed on request to the dean of the school of medicine.

Society News.—Members of the Cambria County Medical Society, Johnstown, will inaugurate a physicians' telephone exchange, April 1; more than fifty physicians had subscribed for this service up to March 2.——Dr. John A. Kolmer, Philadelphia, gave a postgraduate lecture before the Allegheny County Medical Society, Pittsburgh, March 11, on "An Investigation of Gye's Work on the Etiology of Malignant Tumors."——The Allegheny County Medical Society recently fixed its dues at $15 for all members who have been licensed five years or more, and $10 for other members; Dr. Cornelius C. Wholey addressed the society, March 16, on "Turning Mental Symptoms to Account in General Medicine."——Dr. Francis Carter Wood, New York, will deliver a postgraduate lecture before the Allegheny County Medical Society, March 25, at the Carnegie Library, Pittsburgh, on "The Blair Bell Lead Treatment for Cancer."

Philadelphia

Medical Exhibit at Sesqui-Centennial Exposition.—The board of directors of the Sesqui-Centennial Association has appropriated $250,000 for the medical exhibition. The exhibit will include all phases of the scientific treatment of the sick, and will cover 15,000 square feet of floor space. There will be a model sanatorium and separate sections dealing with the medical specialties, the progress of medical education, the recent medical discoveries, and a pharmacy exhibit and a dental display. Prominent physicians will be in charge of the sections.

Library of College of Physicians.—The annual report of the library committee of the College of Physicians of Philadelphia shows a total of 146,998 bound volumes in the library, about 21,000 unbound reports and transactions, about 24,000 unbound theses and dissertations, and more than 148,000 unbound pamphlets. During the year, 4,606 volumes were "taken out" of the library; 7,250 persons used the library and 23,512 volumes were consulted "on demand." The library committee authorized the sale of the entire collection of duplicates to the Medical School of the University of Otago, Dunedin, New Zealand, at 10 cents a volume, and received for the sale $1,131. Dr. Francis X. Dercum was chairman of the library committee.

Society News.—Dr. William G. Spiller has been elected president of the Philadelphia Urological Society; Drs. Frederic H. Leavitt and Nathaniel W. Winkleman, vice presidents, and Dr. Clarence A. Patten, secretary.——Dr. David Riesman addressed the Pathological Society of Philadelphia, March 11, at the College of Physicians on "Memorial to Dr. Juan Guiteras."——Through the generosity of the family and friends of Dr. Packard, the Frederick A. Packard Memorial Lecture before the Philadelphia Pediatric Society has been permanently endowed. Dr. Packard, who died in 1902, was one of the organizers of the society, its second president, and the first person to read a paper before the society.——Dr. Gabriel Tucker of the Bronchoscopic Clinic, Jefferson Hospital, addressed the Berks County Medical Society, March 9, on "Bronchoscopic and Esophagoscopic Cases of General Medical and Surgical Interest."

SOUTH CAROLINA

Personal.—Dr. Leldon W. Martin, Greenwood, county health officer, has resigned, and will move to Avon Park, Fla., to engage in general practice.——Dr. Benjamin F. Wyman, of Aiken, has been appointed director of the department of rural sanitation of the state board of health, to succeed Dr. Luther A. Riser.

Society News.—Dr. Joseph H. Cannon, Charleston, addressed the Greenville Medical Society, March 1, on "Periodic Examinations."——Dr. Robert S. Cathcart, president of the South Carolina Medical Association, addressed the February meeting of the York County Medical Society at Rock Hill; Dr. Joseph H. Cannon, Charleston, gave an address on "Periodic Health Examinations."

State Medical Meeting.—The annual meeting of the South Carolina Medical Association will be held at Sumter, April 6-8, with headquarters at the Claremont Hotel. An important feature of the meeting this year will be periodic health examinations; clinics along this line are being arranged. Dr. Stuart McGuire, Richmond, Va., will deliver the address on surgery; there will be a symposium on the nutrition of the child and one on thyroid disease; there will be a reception at the Country Club, April 7, and arrangements are being made for a reunion of the alumni of the Medical College of the State of South Carolina.

VERMONT

Acting Dean Appointed.—Dr. James Nathaniel Jenne, Burlington, professor of clinical medicine and therapeutics at the College of Medicine of the University of Vermont, has been appointed acting dean to succeed the late Dr. Henry C. Tinkham. Dr. Jenne is on the staffs of the Mary Fletcher Hospital, the Fanny Allen Hospital and the de Goesbriand Hospital; he is an ex-surgeon general of the Vermont National Guard and ex-president of the Vermont State Medical Society.

VIRGINIA

Chiropractor Sentenced.—Rema M. King, a chiropractor of Richmond, was sentenced to ninety days in jail, February 26, and fined $100 in police court, it is reported, for practicing without a license. Several months ago, Miss King is said to have been sentenced to sixty days in jail, and an appeal is still pending in that case.

Society News.—Dr. Beverley R. Wellford, Jr., has been elected president of the Richmond Ophthalmological and Otological Society; Dr. Alvin F. Bagby, vice president, and Dr. Francis H. Lee, secretary-treasurer.——Dr. St. George T. Grinnan has been elected president of the Richmond Pediatric Society; Dr. James B. Stone, Jr., vice president, and Dr. Henry S. Stern, secretary-treasurer.

Health at Richmond.—Telegraphic reports from sixty-eight cities with a total population of 29,000,000 for the week ending February 27 to the department of commerce indicate that the highest mortality rate (35.8) was in Richmond, and that the rate for the group as a whole was 16. The mortality rate in Richmond for the corresponding week last year was 16.5, and for the group of cities, 13.9.

WISCONSIN

Society News.—Fourteen pediatricians of Milwaukee met at the Children's Hospital, March 3, for the purpose of organizing the Milwaukee Pediatric Society; Dr. Thomas R. Bours was made temporary chairman, and the committee was appointed to draw up a constitution and by-laws.——Conrad E. Tharaldsen, A.M., professor of biology, Northwestern University, Evanston, Ill., addressed the Medical Society of Milwaukee County, March 12, at the Hotel Pfister, Milwaukee, on "The Great Problem of Heredity."

GENERAL

Official Guide on Request.—The Cunard Steamship Company, 25 Broadway, New York, will mail to any address on request, free of charge, "the official medical guide of postgraduate work in Hungary."

Examinations in Otolaryngology.—The American Board of Otolaryngology will conduct two examinations during the month of April: one at St. Paul Sanatorium, Dallas, Texas, April 19, 9 a. m., the other at Stanford University Medical School, Clay and Webster streets, San Francisco, April 27, 9 a. m. Applications may be secured from the Secretary, Dr. Hanau W. Loeb, 1402 South Grand Boulevard, St. Louis.

Influenza Mortality.—Telegraphic reports to the U. S. Department of Commerce from sixty-eight cities with a total population of 29,000,000 show a gradual increase since January 2 in the influenza mortality, the number of deaths reported for the week ending January 2, having been forty-three; for the week ending January 30, seventy-nine; for the week ending February 27, 140, and for the week ending March 6, 254.

Warning—Adjusting Agency.—A correspondent writes that Mr. F. L. Belt has been undertaking to collect accounts for physicians in a number of towns throughout the country under the name of the State Adjusting Agency. Mr. Belt is said to have received accounts from many physicians in Rockford, Ill., last fall, from which city he has departed, and in several instances to have failed to account to physicians for funds which had been paid him on these accounts. Mr. Belt is now said to be in Hastings, Neb.

Bill to Coordinate Federal Health Activities.—Legislation of a new form to provide for coordination of the health work of the government is provided in a bill introduced in the House of Representatives by Congressman James S. Parker of the House Committee on Interstate and Foreign Commerce. The bill places full authority in the hands of the President to transfer to the public health service any existing agency engaged in carrying on a public health activity. The measure provides for no extension of the present functions of the government, but would permit a more efficient arrangement of the present activities of the government on medical, health and associated activities; it would make the U. S. Public Health Service the nucleus about which all medical and public health activities of the government would center, and would permit the President to transfer to that organization any other bureaus of the government devoted to similar activities. The Surgeon General of the Public Health Service would be permitted to detail medical or scientific personnel of that service to educational and research institutions for special studies of scientific problems relating to public health. The fact that the legislation will not incur additional expense on the part of the government is given as an especial reason for favorable action on it in Congress.

The Osler Memorial Volume Is Ready.—The Sir William Osler Memorial Volume, which the International Association of Medical Museums has been sponsoring for five years, is complete and will be issued in April. The volume contains about 700 pages of memorial contributions and bibliographic notations and eighty illustrations; it is bound in cloth and sells for $10. The present edition is being privately issued by advanced subscriptions and with the aid of a publication fund inaugurated in 1921; subscriptions or contributions to the fund are still needed. Advanced subscribers for more than one copy are published, if their names are received before binding, at the back of the volume. "Presentation" copies will be sent, if desired, direct from the publishers to addresses given at the subscription rate. Written by more than 100 colleagues, friends and pupils, the book comprises a large series of reminiscences of Sir William Osler, arranged in sequence under the periods of his career. The introductory articles are by Prof. William H. Welch and the late Sir Clifford Allbutt. At the end there is a complete bibliography of Dr. Osler's publications. Checks should be made to the International Association of Medical Museums (Osler Memorial Volume) and forwarded to Dr. Maude E. Abbott, secretary of the association, McGill University, assistant professor of medical research, Montreal, Canada, or to Dr. Wilburt C. Davison, assistant dean and associate professor of pediatrics of the School of Medicine, Johns Hopkins University, Baltimore, or to Sir Humphry Rolleston, president, Royal College of Physicians, 55 Upper Brook Street, London, W. I., England.

Hearings on Lye Bill.—Substantial progress toward the enactment of legislation to require household packages containing lye and other caustic substances to be labeled "poison" was made at hearings before the Senate and House committees on interstate commerce at Washington, D. C., March 4-5. Members of the committees who heard the testimony of Dr. Charles W. Richardson of Washington, Dr. Chevalier Q. Jackson of Philadelphia, and Dr. William C. Woodward of Chicago were deeply impressed by the facts presented. Dr. Jackson exhibited to the committee many photographs of children who had suffered partial or total obliteration of the esophagus by swallowing lye and similar substances. He made the remarkable statement that in thirty-seven years' experience in the treatment of persons swallowing lye, he never had a case, nor heard of one in any hospital, of a child poisoned with "rough on rats," or "Paris green"; in his opinion, the reason for the absence of poisoning in such cases *is due to the fact that the packages containing such articles* were conspicuously labeled "Poison." He said that legislation has been passed in twelve states requiring lyes and alkalis to be labeled "Poison," but that federal legislation is necessary to make conditions uniform throughout the country and to compel all manufacturers to be on the same basis. Dr. Richardson presented to the committees the resolutions of the House of Delegates of the American Medical Association, June 26, 1923, in approval of state and federal legislation in the interest of public health and safety in the packing and labeling of concentrated lye and similar subjects. Mr. H. R. Drackett of Cincinnati, chairman of the Lye Section of the American Grocery Specialty Manufacturers Association, spoke strongly in favor of the bill. Senator Watson of Indiana, chairman of the Senate committee, inserted in the record a letter from Mr. J. M. Lacurin, president of the American Wholesale Grocers Association of Jacksonville, Fla., approving legislation similar to that proposed. Copies of resolutions adopted by the American Child Health Association and the American Public Health Association, favoring the legislation, were filed for the information of the committee.——A report has just been received to the effect that this bill was favorably reported to the Senate from the Committee on Interstate Commerce.

Society News.—The National Medical Association will hold its thirty-first annual meeting in Philadelphia, August 23-27. The board of education of the city has donated the use of the Walter George Smith public school and the James Logan public school, Nineteenth and Reed streets, for the meetings. The mayor of the city will deliver an address of welcome. Among the special clinics will be Dr. Chevalier Q. Jackson, at the Jefferson Hospital, for the removal of foreign bodies from the air passages, and a tuberculosis clinic at the Jefferson Hospital by Dr. Paul J. Taylor; members of this organization have initiated a proposal to conduct the "National Medical Association Tour of European Clinics for 1927," which will come before the Philadelphia meeting for approval by the executive board.——The American Association of Thoracic Surgery will hold the 1926 meeting in Montreal the last week in September, just previous to the International Tuberculosis Conference in Washington.——The annual stomatologic convention of the American Stomatological Association will be at the New York Academy of Medicine, New York, April 5-7; among other speakers will be Dr. Joseph C. Bloodgood, and E. V. McCollum, Ph.D., Baltimore; Dr. Joseph M. Post, Philadelphia; Dr. Samuel A. Brown, New York; Dr. Nathan B. Van Etten, New York, and Dr. Weston D. Bayley, Philadelphia, president of the American Stomatological Association. The program will deal with the scientific side of stomatology and the proposed educational program for stomatologic teaching in the United States. Physicians and dentists are invited to attend the meetings.——The annual meeting of the American Association of Industrial Physicians and Surgeons will be in Philadelphia, Pa., May 24-26. Headquarters will be at the Hotel Pennsylvania. All physicians in good standing interested in industrial medical problems are invited to attend.——The Association of American Teachers of the Diseases of Children will hold their annual meeting at the Adolphus Hotel, Dallas, Texas, April 20, following a luncheon at 12:30 p. m. ——At the meeting of the Pacific Coast Surgical Association at Del Monte, February 26-27, Dr. Stanley Stillman, San Francisco, was elected president; Dr. Ernest A. Sommer, Portland, Ore., and Dr. William D. Kirkpatrick, Bellingham, Wash., vice presidents, and Dr. Edgar L. Gilcreest, San Francisco, secretary; the association will convene, February 25-26 of next year, at Del Monte.

News of Epidemics.—Nearly one fifth (3,000) of the population of Amarillo, Texas, were recently reported as being ill with influenza; no deaths had been reported up to February 27——Several communities in northern New York reported epidemics of influenza as of March 7 Gloversville, 500 cases, Ausable Forks, 300 cases, and an unknown number at Binghamton and Plattsburg, two deaths had been reported, March 7——Four new cases of smallpox were reported in Bowling Green, Ky, as of March 2——The Dalrymple grade school, Albion, Mich, was reported closed March 2, on account of several cases of scarlet fever——Wilmington, Del, is said to have had 651 cases of measles from February 1 to February 27, in the corresponding period last year there were only three cases——An outbreak of influenza in Shelby County, Ind, recently seriously handicapped business houses factories and the public schools, fifty-four pupils in one school were reported absent on one day because of illness——The Sante Fe School, Tennessee, has been closed for three weeks because of outbreaks of influenza, measles and whooping cough——An epidemic of scarlet fever in Smith Mills, Ky, caused the schools and churches to be closed recently for two weeks——There were seventy-four cases of scarlet fever recently reported in St Johns, Mich——The Bohon School, Kentucky, was ordered closed late in February because of scarlet fever in the district——The state epidemiologist of South Carolina has requested various railroad officials immediately to stop the transportation into South Carolina of persons with smallpox, several cases were said to have been brought to the state in persons returning to their homes from Florida——There had been 1,613 cases of measles in the outbreak in Brooklyn, February 24, with twenty-two deaths reported during the previous five weeks——Two deaths from an epidemic of cerebrospinal meningitis, and six other cases were reported at the Great Lakes Naval Training Station, Ill, the first week in March, the recruit regiment of about 700 men were placed under quarantine——Outbreaks of influenza have been reported by the Surgeon General of the Army for the week ending February 6, occurring at Fort Riley, Kan, and Fort Steven D Little, and for the week ending January 23, at Fort Myer, Va, at Fort Humphreys, Fort Washington and Fort Eustis, during the week of February 13, also at Fort Monroe, February 25, and at Fort Benning and Fort McPherson for the week ending February 13——One hundred and twenty-two cases of pneumonia and forty cases of influenza were reported as developing in Chicago, March 9——The three cases of smallpox reported in Toledo, Ohio, in February, were said to be the first cases in the city for several months——Oklahoma City reported 132 cases of influenza in February, with nine deaths——Measles had been responsible for the death of thirteen persons in Monroe County, Ind, up to March 10——The influenza epidemic in Bradford County, Pa, has closed some of the schools and seriously interfered with the various lines of business——About 600 pupils in the public schools of Dallas, Texas, were vaccinated during the first week in March, following the discovery of a case of smallpox in Sunset High School, and eight cases in Oak Cliff

LATIN AMERICA

Alastrim in Trinidad.—Medical authorities in Trinidad, British West Indies, announce the occurrence recently of two cases of alastrim at Port of-Spain, the capital city The first victim was an immigrant who recently arrived from Venezuela, the other a native of Trinidad There was no apparent contact between the two cases, and from February 8, when the second case was discovered, until February 23, no other case had developed

FOREIGN

International Society on Surgery—The seventh congress of this society will be held in Rome, April 7-10, under the presidency of Professor Giordano of Venice Among the subjects for discussion will be 'Treatment of Cerebral Tumors" by Drs Alfred W Adson of the Mayo Clinic, Rochester, Minn, Bastianelli (Rome), de Martel (Paris), Percy Sargent (London), Brun (Lucerne), and Lozano (Saragossa), and "Surgery of the Spleen' by Drs Cortes-Llado (Seville), Henschen (St Gall), Leotta (Bari), Papayoannou (Ghezireh) and Patel (Lyons) Operations will be performed at the hospitals on two mornings There will be receptions by the governor of Rome and the president of the congress, a banquet by the Italian members, and a trip to Tivoli A tour starting from London, March 29, to Milan, Venice, Padua, Bologna and Florence will end at Rome for the commencement of the congress Another tour has been arranged after the meeting to Naples, Pompeii, Vesuvius and the Isle of Capri Members may be accompanied by their wives and families

Personal—Dr C Juillard has been appointed to the newly founded chair of medical traumatology at the University of Geneva——Dr R Sand, the president of the Belgian Eugenics Society, presided at a public meeting of the society recently at Brussels, where a plea was made for medical examination before matrimony, but the necessity for prudence and moderation in the examiners was emphasized——The silver medal of the Paris Assistance publique was recently presented to M Bourdon, a roentgenologist at the St Louis Hospital, Paris, who has had the right hand and part of the left amputated on account of roentgen-ray injury——Dr George Newman delivered the Hunterian Oration, February 22 on "The Relation of the General Practitioner to Preventive Medicine"——Our Berlin exchanges state that Prof Miguel Couto, president of the Brazil Academia de Medicina at Rio de Janeiro, now in Europe, presented the Berlin Medical Society with the formal greetings of the academia, and presented the president of the society, Prof F Kraus, with a gold medal——Prof H H Meyer, Vienna, has been elected the twentieth honorary member of the Berlin Medical Society——Profs E Semelaigne and E Long, Geneva, are to preside at the thirtieth Congress of French-Speaking Psychiatrists and Neurologists, to convene, Aug 2, 1926 at Geneva and Lausanne "Schizophrenia," the "Babinski Sign and "Work in Treatment of Mental Disease" are the topics to be discussed The date is the centennial of the death of Pinel, who was an ancestor of Dr Semelaigne——Dr J G de Lint of The Hague will preside at the sixth International Congress on History of Medicine It is to open at Leyden July 18, 1927, and close at Amsterdam, July 23 A historical exhibit is planned at both places The secretary is Dr J E Kroon, Leyden

Government Services

Patients in Army Hospitals

The total number of patients in army hospitals in the United States, February 6, according to the Surgeon General's Office, was 6,466, of which 3 821 were active army and navy personnel, 2,038 beneficiaries of the Veterans' Bureau, 152 beneficiaries of the Soldier's Home, and 455 civilians, including various employees, dependents of officers and enlisted men and retired officers The number of patients in army hospitals in the corresponding week last year was practically the same being five more than in 1926 Of the total number of patients, 4,257 were in general hospitals, including the Station Hospital at Fort Sam Houston, Texas

Resignations and Reappointments in Veterans' Bureau

The March issue of the *U S Veterans' Bureau Medical Bulletin* notes the following resignations and reappointments of physicians in the bureau at the hospital indicated

Dr George D Bragaw, reappointed at Hospital no 42, Perry Point, Md, Nov 28, 1925

Dr Coleman C Burns, resigned at Hospital no 88 Memphis, Tenn, Dec 15 1925

Dr William C Douglass reappointed at Hospital no 42, Perry Point, Md Dec 1 1925

Dr Zenon A D'Armours, resigned at Hospital no 55, Fort Bayard, N M Nov 20, 1925

Dr John C George, resigned at Hospital no 60, Oteen, N C, Dec 31, 1925

Dr George H Hyslop, resigned at Hospital no 81, Bronx, N Y (part time), Dec 31 1925

Dr Hugh S Willson, at Hospital no 68 Minneapolis (attending specialist), Dec 31, 1925

Board to Study Effects of War Gas

The director of the U S Veterans' Bureau has appointed, at the request of the American Legion and other agencies, a board of physicians to study the residual effects of war gases The members of the board are Dr Allen K Krause associate professor of medicine Johns Hopkins University Medical School, Baltimore, Lieut Col Harry L Gilchrist, Medical Corps, U S Army, and Dr Philip B Matz of the Veterans' Bureau At a meeting, March 9 the board decided to start the investigation at once, it will cover a period of from twelve to eighteen months and necessitate the study of the present physical condition of about 70 000 men who were gassed during the World War.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 20, 1926.

Osteopathy in the House of Commons

A raging campaign for registration of osteopaths is being carried out. The case of Dr. Axham, whose name was removed from the Medical Register for administering anesthetics for an unqualified bonesetter, Mr. Barker, has been reported in previous letters. As stated, Barker's subsequent knighthood is considered by the press and public to have vindicated Axham. But the effect extends further.. Though bonesetting is quite different from osteopathy, they are associated in the public mind, largely because they are both forms of unqualified practice. The importance of Sir Herbert Barker's name as an asset in the struggle of the osteopaths has evidently been grasped. The American School of Osteopathy (Kirksville) conferred an "honorary degree" on Barker, which, in a long letter to the *Times*, he says he accepted "with pride and pleasure." He praises Streeter, the American leader of the osteopaths in this country, and joins with him in demanding registration to enable osteopaths to practice "with the same freedom and responsibility as the ordinary doctor," and proceeds to make capital out of the case of Dr. Axham, though it has nothing whatever to do with osteopathy.

Replying to this letter, a surgeon, Mr. Herbert Paterson, points out that the human body is not divided into water-tight compartments, and so the healing art requires a thorough knowledge of medicine and its allied sciences. Specialization must come afterward. An osteopath may acquire skill in certain directions, but that skill cannot be applied with safety unless guided by a mind trained in general medicine. Osteopaths have no legitimate grievance, as it is open to them all to obtain a medical qualification, after which they can practice any form of therapy they desire.

In the House of Commons, Dr. Graham Little, the dermatologist and representative of London University, called attention to the spread of unqualified practice in medicine and surgery by osteopaths, chiropractors and other irregular practitioners, and moved "that an authoritative inquiry with the object of making recommendations to Parliament for dealing with the whole position of irregular practice in medicine and surgery is urgently necessary." He said that the spread of unqualified medical practice was due to many causes, but perhaps the most important was the length of the medical curriculum. British medicine was part of international medicine, in which any discovery made by one individual was immediately made known to the rest of the world. The keynote of unqualified practice was secrecy as to the methods employed. Osteopaths were most in the public eye at present, and were in many respects very different from other groups of unqualified medical practitioners. They claimed to be as fully trained in medicine and surgery as were the ordinary physicians. Their system was based on a formula or theory propounded fifty years ago by an obscure physician in one of the small cities in the Western states of America. That theory had been examined and had been rejected by international medicine, and nowhere more than in the United States. It had become necessary to grade the foreign colleges from which students came who applied for the right to practice in this country, and three grades had been instituted, A, B and C. Applicants from colleges in grade A were allowed to sit for an examination set by the licensing body in this country. That fact disposed of the allegation that the medical profession was a very close trade union which refused to admit any outsiders. No one could have held, as he had for nearly thirty years, the position of a hospital physician without being saddened by the cases of terrible neglect of the poor due to unqualified treatment. He thought it would astonish the house to learn that, except England, Germany and five of the Australian states, practically all the countries of the civilized world penalized unqualified practice.

Another member moved an amendment to provide that the inquiry should have the object of securing the recognition and registration of manipulative practitioners with approved qualifications. The committee of inquiry could settle what the necessary qualifications should be. He related cases of the alleged miraculous cures when the regular physician had failed.

Mr. Chamberlain, minister of health, said he did not think it could be denied that there were dangers in unqualified medical practice—the direct harm of violent treatment or the administration of harmful drugs, and the indirect harm of inducing patients to put off seeking qualified advice until the disease was beyond cure. The mover of the motion desired to see all unqualified practice prohibited. When they came to consider whether that course was desirable or not they must take into account that the growth of education in this country and the general intelligence of the people afforded a protection against recourse to crude and unqualified kinds of treatment. The real discussion, however, had ranged almost entirely around what were called manipulative practitioners. He could not advise the house to adopt the amendment. It asked that osteopaths should be recognized and registered, thus receiving some sort of official status. But what board could measure or lay down rules for the testing of those who applied to be placed on the register? Any properly qualified physician in this country today could specialize, if he liked, in osteopathy. As a matter of fact, some had done so. Let osteopaths set up their own colleges, give their own diplomas, and then they would be forced to do what had been done in America. Their curriculum would gradually have to conform to something that would approach to the normal curriculum in this country. He did not think it was necessary to prohibit, and he did not think public opinion would be in favor of prohibiting, unqualified practice. But the proposals of the amendment seemed impossible to defend, and on the whole, he thought that the house would do best to leave things to develop in the normal, ordinary way.

The motion was "talked out." This means that the time given by the rules of the house was exhausted before a division could be taken. To be pursued further it must be brought forward again. One important liberal paper, the *Daily News*, is foolish enough to describe the debate as a "battle for freedom." As the last speaker was the professor of surgery in Belfast, it charges the physicians with talking out their own motion because they were afraid of a division. It was a foregone conclusion that the house would not attempt to prohibit unqualified practice in this country which—as the relaxation of the law on vaccination shows—has a very tender regard for the liberty of the subject, even to his own detriment. But it is satisfactory that the hopes of those agitating for the registration and recognition of osteopaths by the state have been dashed to the ground.

Spread of Smallpox

Considerable anxiety is felt about the smallpox outbreak in the North and Midlands of England. It is by far the most extensive outbreak for half a century. On the other hand, the type of disease is exceedingly mild. As 1,526 cases were notified in January, the rate of infections is about 300 a week. Because of the mildness, there is astonishing public indifference to the disease. An outbreak in Northumberland was traced to a dance attended by a girl with the disease. A patient was found among the guests at a wedding. Nearly half the cases during the last few weeks occurred in Durham, Yorkshire, Derbyshire and Northumberland, where there is a high percentage of exemptions from vaccination. In Derby the disease has persisted since 1924, because of the carelessness and indifference of those affected, concealment of cases, and the nonvaccination of contacts. The health committee intends to ask the government for power to make house-to-house visits in infected areas and to impose penalties for giving false information.

The increase of smallpox, owing to neglect of vaccination, is shown by the following official figures of the total number of cases during the years 1914-1925: 57, 78, 135, 6, 51, 262, 243, 311, 967, 2,477, 3,757, 5,300. The last year for which complete information relating to the vaccination of infants is available is 1923. In that year, 758,404 births were registered in England and Wales, and of these children 395,553 had not been vaccinated by Jan. 31, 1925. The percentage of vaccinations to births in 1923 was 47.8, while the corresponding percentage for 1905 was 75.8.

The Declining Birth Rate

The annual figures for England and Wales of births, deaths and infantile deaths for the year 1925 have just been issued and are as follows:

	Birth Rate per 1,000 Total Population	Death Rate per 1,000 Population (Crude Rate)	Deaths Under 1 Year per 1,000 Births
England and Wales............	18.3	12.2	75
105 county boroughs and large cities, including London.....	18.8	12.2	79
158 smaller cities (populations from 20,000 to 50,000 in 1921.	18.3	11.2	74
London	18.0	11.7	67

The death rate for England and Wales relates to the whole population, but that for London and the groups of cities to the civil population only. The birth rate of England and Wales as a whole is the lowest recorded, except during the war years 1917 and 1918, while the death and infantile mortality rates are equal to those recorded in the previous year. The following table shows how steadily the birth rate continues to decline:

Birth Rate per 1,000 Population

1921	1922	1923	1924	1925
22.4	20.4	19.7	18.8	18.3

The figures for 1917 and 1918 were, respectively, 17.8 and 17.7. The death rate remains low, but is not the lowest recorded recently, as the following table shows:

	1921	1922	1923	1924	1925
Death rate per thousand population	12.1	12.8	11.6	12.2	12.2
Infant death rate per thousand births	82	74	70	75	75

A New Zealand Report in Favor of Sterilization of Mental Defectives

The controversy in this country on the sterilization of mental defectives has been described in these columns. It is interesting to compare the attitude in New Zealand. The whole subject has been dealt with in a report issued by a committee appointed by the minister of health. The gist of the report was reproduced in the *Eugenics Review* for October, 1925. Its authors are evidently puzzled at the attitude of the Association for the Care of Mental Defectives as expressed in the 1923 report. The New Zealand committee recognizes that there are many cases in which segregation is absolutely necessary; but in less serious cases it urges that sterilization is preferable: "Sterilization in suitable cases is not a high price to pay for liberty. Sterilization gives the patient liberty to do useful work in the community, is less drastic than segregation for life, and on the whole a much slighter interference with the rights of the individual." In the period 1915-1919 there were discharged from London asylums 27,218 patients as having recovered; no fewer than 7,952 were subsequently readmitted to London asylums; many others probably found shelter in asylums outside London.

Model Village for Consumptives

It is now ten years since the Papworth Village Settlement was founded, a unique institution in this country, in which the tuberculous are self supporting. The management of this successful sociomedical experiment has been urged to extend this pioneering work among the tuberculous and has issued an appeal for $25,000. Heretofore the public has not been asked to assist directly in the undertaking. Fresh capital is needed to enable the consumptives to build new workshops and hostels and to purchase additional machinery and plant. The promoters have striven to secure for the tuberculous surroundings that will compensate them for their partial segregation, while helping to protect the general community against sources of infection. The village has nothing unpleasantly institutional in its appearance. Each of the model cottages, extending for a mile along the road, houses a consumptive and his family, but except for the remarkable number of open windows the village is not to be distinguished from others. In the nearby factory buildings, again, there are open windows and good hygienic conditions, and hours of work regulated to the workers' strength. To each worker, freed from anxiety as to loss of work, a living wage is guaranteed, no matter how light the task within his capacity. On a slight eminence, somewhat withdrawn from the village, is the sanatorium, through which the villagers have passed.

ITALY

(From Our Regular Correspondent)

Jan. 15, 1926.

Prizes Awarded to Professor Gosio

Professor Gosio has been awarded three distinct prizes: the first prize of the Pagliani Foundation (5,000 liras and a gold medal) competed for by distinguished workers in the field of public health; a gold medal conferred by the exposition of applied chemistry, recently held in Turin, and one of the four gold medals struck by the school of tropical medicine of Hamburg, on the occasion of its twenty-fifth anniversary. Professor Gosio has devoted himself to the laboratory of bacteriology of the Italian public health service and is one of the most ardent devotees of malariology in Italy.

The Academy of the Lynxes

The Academy of the Lincei was founded in Rome, Aug. 17, 1603, by Federigo Cesi, prince of Rome, together with Francesco Astelluti, Giovanni Eckio and Anastasio de Filiis, for the chief purpose of promoting the study and the practical application of the experimental sciences, although not excluding belles-lettres and philology. The device of the Lincei was a lynx (*lince*), an animal endowed with acute vision, intimating that the members of the new academy must possess genius and perspicacity and use them in scientific researches.

In 1611, Galileo was enrolled as a member, and his Letters on the Solar Spots and his polemic treatise Saggiatore were published under the auspices of the academy. In 1624, the academy published "Le Praescriptiones Lynceae," which was the first constitution of the society. After Cesi's death in 1630, the society languished until 1651, when it became all but extinct; but in 1745 it was revived for a short period through the influence of Giovanni Bianchi. In 1801, the Accademia fisicomatematica of Rome, recalling the glorious early history of the Lincei, assumed its name and in 1813 redrafted its constitution. It flourished thus until 1840, when it was disbanded at the command of Pope Gregory XVI. Pope Pius IX reopened the academy in 1847, bestowing on it a new constitution, and giving it the name of "Accademia Pontificia dei Nuovi Lincei." In 1870, after Rome became reunited with Italy under the rule of the House of Savoy, the society, while remaining virtually the Accademia Pontificia, assumed the name of the Royal Academy of the Lincei, and King Victor Emmanuel II gave it a new constitution and divided it into two sections, one devoting itself to physical, mathematical and natural sciences, and the other to moral, historical and philosophical subjects. At the present time, the first section comprises sixty-five national members, sixty-five corresponding members and a hundred foreign members, and the second section numbers fifty-five national members, fifty-five corresponding members and fifty-five foreign members. Many of the members belong to the department of biologic sciences, and are professors of physiology and pathology. The society has its own headquarters in the Corsini Palace in Rome, bestowed on it by the Italian government in 1883, on which occasion Prince Corsini presented to the academy the famous collection of prints and engravings assembled by his ancestors.

The academy, which stands now in high repute in Italy, controls the awarding of numerous prizes. Two of the prizes, amounting to 10,000 liras each, were established by King Humbert I and were made perpetual by Victor Emmanuel III. Membership in the academy is an honor to which the ambitious aspire, and, since the promulgation of a decree three years ago, makes those thus honored eligible to appointment as senators of the realm.

OPENING OF THE NEW ACADEMIC YEAR AT THE "NUOVI LINCEI"

December 29, in the presence of Pope Pius XI, the papal academy of sciences "Nuovi Lincei" inaugurated its seventy-ninth academic year. The ceremonies were held in the Casina of Pius IV in the gardens of the Vatican and were attended by the members of the academy, together with high officials of the papal court. The pope performed the ordinary duties of chairman, while President Gianfranceschi read the report for the past year.

The Vocational Guidance Service in Rome

Senator Cremonesi, the governor of Rome, has recently established a vocational guidance service in the municipal bureau of public instruction. The service will endeavor to familiarize pupils, by means of the distribution of monographs and illustrated pamphlets, conversations, lectures, motion pictures and visits to workshops and manufacturing establishments, with the various trades and professions that are open to them. It is also one purpose of the institution to evaluate for parents and pupils the demands of the various occupations. It will ascertain the physical and mental aptitudes of the individual pupils, whereby a wise choice of a trade or profession may be made. For each child a record book will be established, in which will be entered, from time to time, the data that indicate his adaptability for a particular line of work, and, when the child shall have completed the whole course of study, he will receive the record book, together with advice on the choice of a life calling. The vocational guidance service will be directed by a special commission, to which will be attached, in an advisory capacity, persons well versed in physiology, psychology and hygiene.

Hygienic Propaganda in the Army

In some of the garrisons at Rome, through the initiative of Colonel Cimino, M.D., the chief health officer of the army corps of that region, motion pictures on hygienic and public health problems have been shown to the troops. It is hoped thus to aid the soldier in protecting himself against infectious diseases—more particularly, venereal disease—and induce him to spread knowledge on hygienic subjects within his own family. It is planned to extend the method to other garrisons.

Ambulatory Instructorships, So Called, for the Promotion of Public Health Propaganda

Under the patronage of the Associazione nazionale infermieri, there has been established in Milan the Lega delle cattedre ambulanti d'igiene sociale e di assistenza infermiera. The purpose of the league is to create instructorships with the view of spreading among the people the idea of prompt aid for the suffering, help for the sick, relief for infants and young children, child hygiene in the cities and rural districts, and the prophylaxis of infectious and social diseases. It hopes also to arouse more confidence in the antituberculosis dispensaries and the consultation centers for nursing mothers. The instructors will be selected from among the health officers and the professional nurses, mainly, though it is thought that some physicians may be interested in the movement.

The Carlo Forlanini Foundation

The Forlanini Foundation, established in the name of the famous clinician of Pavia, who, it is said, was the first to employ pneumothorax in the treatment of pulmonary tuberculosis, has announced a prize of 10,000 liras to be awarded to the best work submitted dealing with the pathologic anatomy, the pathogenesis, or the treatment of pulmonary tuberculosis. The original work must be presented to the Direzione dell'Ospedale Maggiore in Milan, Italy, by Dec. 31, 1926.

Plans for a Pension System for Medical Practitioners

Following sustained agitation by the Corpo sanitario italiano, the federation of medical societies appointed, some time ago, a commission to study and to present proposals for the foundation of a pension system for medical practitioners. The commission has announced a tentative plan for financing the undertaking: the payments made by the medical practitioners themselves, a tax of 0.25 lira on each prescription and a small tax on proprietary preparations. The proposals will be submitted to the government for approval.

The Work of the Italian Red Cross in Peace Times

In a recent publication, issued in honor of her majesty the queen dowager, the Italian Red Cross Society reviews its work in social sanitation during the year 1924. A great deal of attention was given to children, for which work the Red Cross has agencies: The "E. Maraini" Preventorium in Rome; the Ambulatorio di assistenza infantile in Genoa; the Casa dei bambini in Leghorn; the Ambulatorio di assistenza infantile in Terni, and dispensaries for infants in Avellino, Chieti and Pavia. A total of 1,309 infants were thus treated. In addition to ambulatory treatment, the Red Cross provides numerous permanent colonies for delicate children from 4 to 12 years old: the E. Maraini colony for boys, and the Iolanda di Savoia colony for girls at Fara Sabina (near Rome); the Prince of Piedmont colony at Brescia, and other colonies in Fiume, Venice, Novara, Perugia and Reggio di Calabria. In addition, there were, during the summer months, fifty-three temporary colonies, some by the sea, some in the mountains and some on the plains, where a total of 7,443 children were treated. Five thousand children in the rural sections about Rome and in southern Italy were aided by the Servizio medico scolastico. Furthermore, 371 children made use of the open-air schools and the heliotherapeutic colonies. Another important activity is the crusade against tuberculosis, which was carried on by means of three sanatoriums, a marine hospital, and various dispensaries, in which, in 1924, 8,872 patients were cared for. Also the Red Cross supported permanent antimalaria stations in which

19,873 patients received treatment. In the peninsula and Sicily antimalaria dispensaries were established and aided 72,733 patients. In addition, several antimalaria colonies for children were opened. On the island of Sardinia prophylactic treatment was given by auto-ambulances. Another activity of the Red Cross has been the institute for the physical and occupational reeducation of war and industrial cripples and otherwise disabled men. The institute is located at Pescia and comprises seven sections with workshops for the manufacture of prosthetic apparatus. During 1924, 228 cripples and disabled persons were given aid and, when possible, restored to useful activities.

BUDAPEST

(From Our Regular Correspondent)

Feb. 12, 1926.

A Medical Prescription not a Private Document

A pharmaceutic chemist, residing in Szombathely, Hungary, has impeached a local estate owner for having forged the name of a physician on a prescription in order to obtain morphine. The chemist had furnished the drug several times, but finally discovered that the signature of the physician was forged. He duly reported the case, and the public prosecutor charged the estate owner with forging a private document. The indicted wrote on the prescription the words: "Repetatur semper Dr. Szatmári." The counsel for the defense tried to prove that a prescription is not a public document, but a simple form of order. The court thereupon dropped the accusation of forging a private document but maintained the charge of an offense against public safety and getting a poison by false pretenses and fined the estate owner 1,000,000 crowns ($15) and costs.

The Spread of Goiter in Hungary

Statistical data as to the prevalence of goiter show that there are no goiter foci in Hungary and that there was no increase in goiter among the adult population of the country in the last decade. In contrast with this, the increase of goiter among school children, particularly girls, is striking. The average increase among children is 2.38 per cent. That, however, is relatively very low, in view of the fact that in Switzerland the rate among school children is some 60 to 80 per cent, while in Austria it amounts to from 25 to 40 per cent. Comparing the present rate in Hungary with that of twenty years ago, it is demonstrable that the measures prescribed by the ministry of welfare for combating goiter have had a favorable influence for diminishing the spread of goiter.

When Is Marriage Permissible for Syphilitic Patients?

Dr. Joseph Guszmann, lecturer to the Budapest university, lectured on the question of allowing marriage to patients who had syphilis. He summed up his opinion as follows: 1. In general, consent to marry cannot be denied to such persons who have been free from clinical and serologic manifestations of syphilis for several years, and whose syphilis was acquired at least four years before. 2. In old clinically latent cases giving positive blood reactions, it is advisable to persuade the patient to postpone marriage for one or two years, and to *continue treatment.* This, however, is demanded of women, because the period of infectivity of women for their children may be of much longer duration than is true of syphilis in general. 3. The patient should undergo examination by an internist. 4. A syphilitic patient should undergo a course of treatment before his marriage. According to Guszmann, the main dependence is to be placed on arsphenamine, and with this *iodine may* be given with advantage. In persons who underwent abortive treatment in the very initial stages (spirochete positive and continually Wassermann negative), the expectation time may be shortened by one-half, eventually one, year. However successful abortive treatment may seem, one must not be contented with what seems to be a cure. 6. Guarantees of cure must be refused, although syphilitic patients try to put every responsibility on the physician. 7. The physician should never advise his patient to marry. Tactfulness and knowledge of men is very desirable. 8. Guszmann does not hold the opinion that the physician must utterly discourage the intention of persons with late syphilis to marry, particularly if the patient is cooperative.

Did Lister Know About Semmelweis?

The question arose two years ago in a dispute between two medical papers, as to whether or not Lister had knowledge of Semmelweis. Since then the question has been kept alive, and lately the *Orvosok Lapja,* a medical monthly, has continued the controversy. It is alleged that Lord Lister mentioned his knowledge of Semmelweis when he was in Budapest. This knowledge on the part of Lister is doubted by Bruck and Brunn. In his memorial speech on Pasteur, Dec. 26, 1922, Wallich said that the method of Semmelweis had been published, and it was the subject of discussion also in this Academy, but it was not accepted. Only the old Edinburgh obstetrician Simpson followed the example of Semmelweis. Among the students of Simpson was a young student, Lister, who never forgot the doctrines of Semmelweis. The work of Semmelweis was explained by Arneth in the Academy at Paris, Jan. 7, 1851. Simpson himself spoke about Semmelweis in the Medico-Chirurgical Society at Edinburgh, April 16, 1851, and wrote an article on his method in the same year in the *Edinburgh Monthly Journal of Medical Science.* Other indirect references to the relation between Lister and Semmelweis were made in the article of Varnier in *Obstétrique journalière,* 1900, p. 328, and in the Histoire de l'obstétrique by G. I. Seibold, Paris **3**:250, 1892. Lister acknowledged his debt to Pasteur in a letter wherein he thanked Pasteur for his publication on fermentation and decomposition. Bruck attributes the successes of Semmelweis in gynecologic surgery to his having operated with "clean hands." Semmelweis proclaimed the maxim, which still is valid, that "it is safer not to soil the fingers than to clean again the soiled ones." In this he voiced the salient point of the whole of asepsis. Therefore, he laid the foundations of surgical antisepsis and asepsis twenty years in advance of Lister. Surgical asepsis became general and widely accepted through Lister only, although mistakenly he accentuated the importance of infection from the air. The teaching of Semmelweis was that the hands should avoid touching infecting agents, while Lister did not stress cleanliness of the hands for years.

Compulsory Notification of Malaria

The minister of public sanitation has made compulsory the reporting of malaria. This order was made necessary by the epidemic character of the malaria occurring in some parts of Hungary. The minister is considering instructing the people by popular lectures and educational films.

Numerus Clausus in the Outside Universities

Budapest University has been flooded with students this year, and the minister of instruction has raised by fifty the number of students admissible to the Budapest scientific university. In connection with this a division of opinion arose among the universities outside the capital as to the interpretation of the numerus clausus law. In Szeged and Pécs the number of applicants was less than the quota of the local universities. Consequently, in these two universities the law was interpreted in such a way that more than the customary 5 per cent of Jewish students was admitted. Professor Karl Hoór objected to this milder interpretation of the numerus clausus law. The minister of public instruction accepted

Hoór's conception of the law, and insisted that in the country universities also the percentage allowed for the admission of Jewish students be counted after the total number of admitted Christian students. This order has deprived many Jewish lads, among them several really talented ones, from the possibility of continuing their studies in their own homes and in their own lands.

VIENNA

(From Our Regular Correspondent)

Feb. 2, 1926.

Effect of Sugar in Intensifying the Action of Roentgen Rays on Cancer Cells

In a series of experiments with various substances and roentgen rays, Dr. E. S. Mayer succeeded in intensifying materially the action of roentgen rays by injecting intravenously, in advance, a 10 per cent solution of dextrose. Silberstein had already shown that in cancer tissue a more active metabolism of carbohydrates occurs than in normal tissue. By the administration of insulin he had brought about changes in cancer growth. At the last session of the Gesellschaft der Aerzte, Mayer presented a number of cases of cancer of the larynx in which, by use of the method outlined above, he had effected marked improvement. Not only malignant neoplasms reacted to the treatment but also benign tumors (lymphomas, fibromas) retrogressed more rapidly than otherwise. Injection of the sugar directly into the tumor tissue appears to give better results than the intravenous method. In the discussion, Professor Hajek and Professor Holzknecht confirmed the good results of the treatment. Thus far only marked improvement (no cures) has been effected.

Vienna's Budget as Viewed by Physicians

The budgetary estimates for the year 1926 constitute welcome reading for the physician. The government plans to expend enormous sums for municipal sanitation, in the widest sense. Twenty per cent of the budgetary allowance is allotted for welfare work among children, aged persons and the sick, with an estimated total cost of $6,200,000. This is twice as much as was expended in 1913 for such purposes. Especially ample are the allowances for the care of infants and young children. In addition to the existing thirteen consultation centers for mothers, nine more are to be established. Thirty-seven more kindergartens, making a total of ninety-eight, are to be created. Twenty-four new summer recreation centers, in addition to the seven now existing, are contemplated, so that, during the five hottest weeks of midsummer, around 3,000 children may be given recreation and care. Furthermore, three new playgrounds with apparatus will be added to the twenty-six already established. As a continuation of the work of the children's aid created by America, it is planned to furnish 12,400 school children a midday meal.

The city now has 1,800 beds for tuberculous patients, and 500 more will be added during the coming year. An institution heretofore used for psychopathic cases is to be transformed into a tuberculosis sanatorium for indigent women. All school children are to be examined by specialists in tuberculosis. At the end of the year, three private children's hospitals are to be taken over by the city, and, in July, the first municipal maternity home, with 140 beds and costing $300,000, will be opened. The municipal hospital with 1,000 beds, the psychopathic hospital and the children's hospitals will necessitate the expenditure, during 1926, of $2,000,000. Ten municipal homes for 9,529 aged persons of both sexes will require an outlay of $1,500,000. Large sums will be needed also for training schools for nurses, the consultation center for married persons, the care-taking center for alcohol addicts, the consultation center for venereal patients, and the dispensary for indigent venereal patients. In a few weeks, the largest and the most modern public baths in Europe will be completed. The demand for sun and air baths, which, in recent years, has been constantly increasing, will also be met, as far as possible. Likewise, sport activities will be fostered by the building of gymnasiums, swimming pools and the granting of subsidies to athletic associations.

Problems of Tuberculosis Therapy

At one of the regular seminar evenings of the Wiener medizinische Doctoren-Collegium, recently, tuberculosis was discussed. In a recent lawsuit brought against the state, the widow of a government clerk brought suit for damages for the death of her husband, alleging that he had become infected through handling infectious documents that had passed through the hands of his predecessor, who had died of pulmonary tuberculosis. The widow succeeded in proving that the documents when taken over by her husband were contaminated by sputum of the preceding incumbent in office, and that her husband had at first refused to handle such documents, but that his scruples or fears had been overcome by the insistent urgings of his superior. After a lengthy hearing of the case, the plaintiff was given a verdict and the state was ordered to pay her accident compensation for the death of her husband, but the state has appealed the case and the suit is still in court.

Graduate Course on Diseases of the Stomach and Intestine

The medical faculty of the University of Vienna has arranged four short graduate courses to be given at regular intervals throughout the school year. Each course, two weeks in length, will deal with some special field of general medicine, and will be presented by a selected list of specialists. The courses will be open to graduate physicians from all countries. The spring course (end of February and beginning of March) deals with the physiology and pathology of the digestive tract. The subjects will be: the action of medicines in the stomach and intestine, the avitaminoses, affections of the esophagus, oral sepsis, gastric peristalsis, chemistry of digestion, nervous disturbance affecting gastric digestion, roentgen-ray diagnosis and roentgen-ray treatment of the digestive apparatus, obesity and leanness, the thyreoses, gastric and duodenal ulcers, appendicitis, affections of the gallbladder and pancreas, meteorism, the essential characteristics of abdominal pain, digestive disturbances in old age, typhoid, diarrhea and constipation, surgical indications in gastro-intestinal diseases, abdominal tumors, diseases of metabolism, thirst and hunger, the peritoneum and resorption. On expression of a general demand, other special subjects will be treated. Auditors may select the subjects that appeal to them, and may take part in the practical clinical drills to be given by the respective teachers. The clinics will be given in the forenoon, while the remaining hours of the day will be reserved for the general lectures. The charges for the whole course are minimal, since the course is given more for the purpose of making the facilities of the university more generally known.

Deaths of Professors Felsenreich and Stoerk

Scarcely a month passes without the death of one or more members of the medical faculty of the University of Vienna. The past week has witnessed the deaths of two professors. Prof. A. Felsenreich, formerly one of the leading obstetricians of Vienna, who introduced the Credé method of protecting the new-born against gonorrhea, has just died at the age of 78. He was especially well known for his instruction of large groups of midwives. Prof. I. Stoerk, the famous son of a still more famous father, has likewise died. The father was one of the best known laryngologists of Europe.

The son was, for many years, the director of the anatomicopathologic laboratory, and, in the field of cancer research, and of infection and immunity, he contributed many valuable treatises. He died of cancer, after a long illness, at the age of 56.

BERLIN

(From Our Regular Correspondent)

Feb. 6, 1926.

Induced Interruption of Pregnancy

In the Prussian council on public health, it was agreed that the increase of induced abortion during the last twenty years made it incumbent on the government to devote attention to the suppression of the evil. Deaths of mothers caused by abortion and reduction of the natural increase of population would endanger the state. The desire was expressed that, as far as abortion was concerned, the provisions of the present law might be replaced by the milder 1925 draft of the penal code. It was proposed to obtain better statistical information on the number of deaths due to induced abortion. It was emphasized that information concerning the danger to life from induced interruption of pregnancy should be spread among the people. Also compensation of parents with large families by means of parental insurance and remission of taxes was discussed. The creation of care-taking centers for pregnant women, simplified conditions for admission to maternity hospitals for the benefit of unmarried mothers, care of illegitimate children, and modifications of the existing law pertaining to adoption were suggested.

The Achievements of German Social Insurance

The federal government has issued an account of the past achievements and the present status of social insurance in Germany. Aside from aid to puerperants, health insurance is not accomplishing today anything different or anything more than was prescribed or permitted before the war. The first year of its existence (1884), the number of insured amounted to from four to five millions. By 1914 the number had increased to 16,400,000, and in 1924, without any changes having been made in the classes of persons affected, it reached 19,000,000. With the reduced area of present-day Germany, the increase in the number of insured, over that of 1914, amounts to from 3,500,000 to 5,000,000. The increase is due partly to the natural augmentation of population, especially among those in dependent positions, and partly to progressive industrialization and "proletarization." The present-day laborer has also more sick days than his predecessor of the prewar period, doubtless owing to the increase of contagious influences as well as to lessened resistance. Then, again, 1924 was influenced by unfavorable conditions of the labor market and by curtailment of industrial output with its unemployment and part-time work. When the hours of employment fall, the cases of sickness rise, and, similarly, if the contents of the pay envelop shrink, the demands for sick benefits automatically swell. Hence, in contrast with dues amounting to 600,000,000 marks that would have been received in 1914 by the health insurance societies if it had not been for the war, the total for 1924 was 960,000,000 marks.

In the matter of accident insurance, other influences obtain. The disbursement in 1913, for injury claims, administration expenses, etc., amounted to 228,000,000 marks. In 1924 the total dropped to 150,000,000 marks, and it is estimated that in 1925 it will reach 192,000,000 marks. In proportion to the number of insured, the number of accidents is constantly decreasing. This improvement is noted more with respect to accidents entailing permanent results than as regards accidents resulting in temporary injuries. With lowered wages, there is a corresponding decrease in the amount paid in benefits: for, in the adjustment of compensation, the earnings during the year immediately preceding the accident are used as a basis. Vice versa, with the increase of wages, the sum expended for compensation will rise. From 1926 on, the increased use of safety appliances, improved forms of treatment, and study of occupational injuries will reduce the expenditures for compensation.

Invalidism or permanent disability insurance protects seventeen million of the population and employees' insurance two million, together about the same number as health insurance. At present, there are 3,400,000 invalids or permanently disabled persons, widows and orphans receiving benefits, as compared with 1,080,000 in 1913. Owing chiefly to the admission of widows and orphans of war veterans, the number of beneficiaries has almost trebled within twelve years. The number of widows and orphans entitled to benefits will decrease as we get away from the war in point of time. At present, the total number entitled to benefits for invalidism or permanent disability grows at the rate of from 140,000 to 150,000 a year. The chief reason for this appears to be the earlier advent of invalidism or permanent disability, although the bad condition of the labor market has a marked effect, since elderly persons are thereby peculiarly affected. The minimal benefit for invalidism or permanent disability, at present, is 20 marks ($4.76); the average benefit is 25 marks, while industrial workers receive 30 marks, monthly. The industrial worker now receives in general the same benefit that he would have received if there had been no war and no inflation; the additional sums allowed recently for dependent children raise, however, his benefit above the prewar status. From dues, government subsidies and interest the administration of invalidism insurance received in 1913 a total of 417,000,000 marks, and in 1924 a total of 460,000,000. It is estimated that for 1925 the dues will amount to 525,000,000, and the government subsidies to 155,000,000 marks.

Employees' insurance was established twenty-five years after invalidism or permanent disability insurance. In 1924, the receipts were 125,000,000 marks and the expeditures were 30,000,000 marks. It is estimated that the receipts for 1925 will amount to 175,000,000 marks and the expenditures to from 60,000,000 to 70,000,000 marks.

The most dangerous as well as the most wearing work is that of miner. A special insurance fund for miners has been established which supplements the work of the general invalidism insurance. There are now 200,000 fewer miners than before the war; the special insurance fund for miners insures now only 650,000 miners and 50,000 general employees. For 1925, the Reichsknappschaftsverein numbers 95,000 miners among the permanently incapacitated (50,000 of whom are in the Ruhr region) and 30,000 recipients of old age pensions (26,700 of whom are in the Ruhr district). In addition, there are 95,000 widows and 100,000 orphans who are receiving cash benefits from the pension fund. On the basis of the records for the period from January to August, 1925, the Reichsknappschaftsverein estimates that the receipts from miners for dues to the pension fund in 1925 will amount to 157,000,000 marks; the actual expenditures will be somewhat less. There is a bill pending in the reichstag which provides for medical care for all members of the family, and, at the same time, takes into account the economic necessities of miners.

The law of July 28, 1925, pertaining to the care of health in connection with federal insurance is of great importance. In invalidism and employees' insurance this law puts the main emphasis on prophylaxis and social hygiene. For the future, these things are more important than the character and the amount of benefits to be paid. Another group of provisions is based on the necessity of family protection. Newer legislation does not deal so exclusively with the insured but considers aid to puerperants and special benefits for large families of children, and the dependents of the insured.

Marriages

THOMAS RUFFIN PRATT, JR., to Miss Lula Emma Jackson Bailey, both of Charlottesville, Va., Dec. 23, 1925.

ROBERT V. DAY, Los Angeles, to Mrs. Wendla Froshang Wright of Minnesota, January 30.

FRANCIS BARTOW ENNEIS to Miss Marjorie Sawyer, both of Jacksonville, Fla., March 3.

MARK L. GERSTLE, JR., to Miss Marie Russell Fagan, both of San Francisco, March 2.

Deaths

William Frick ⊕ Kansas City, Mo.; St. Louis Medical College, 1884; past president of the Jackson County Medical Society; formerly associate professor of dermatology and head of the department, University of Kansas School of Medicine, Rosedale; on the staff of St. Joseph's Hospital, Kansas City, Mo., and at one time on the staff of St. Margaret's Hospital, Kansas City, Kan.; aged 68; died, February 19, of cerebral hemorrhage.

Sutherland Simpson ⊕ Ithaca, N. Y.; University of Edinburgh, Scotland, 1899; lecturer in physiology at his alma mater, 1901-1908; professor of physiology at Cornell University, Ithaca, since 1908; member of the British Medical Association, the American Physiological Association, the Society of Experimental Biology and Medicine, and the American Association of Anatomists; aged 62; died, March 2, following a long illness.

Harley G. Bickford, Balboa, Canal Zone; University of Minnesota College of Homeopathic Medicine and Surgery, Minneapolis, 1901; member of the Medical Association of the Isthmian Canal Zone; served during the World War; connected with the Balboa Dispensary; aged 50; died, in February.

Joseph Watson Martindale, Honolulu, Hawaii; Johns Hopkins University Medical Department, Baltimore, 1918; connected with the U. S. Veterans' Bureau and served during the World War; aged 32; died, February 9, of an overdose of poison, presumably self-administered.

Abraham Nelken ⊕ New Orleans; Medical Department of the Tulane University of Louisiana, New Orleans, 1899; member of the American Urological Association; on the staffs of the Charity Hospital and Touro Infirmary; aged 49; died, February 23.

Isadore D. Freund ⊕ Butte, Mont.; University of Michigan Medical School, Ann Arbor, 1872; Civil War veteran; on the staff of St. James Hospital, and formerly part owner of the Murray Hospital; aged 79; died, February 16, at a hospital in Seattle.

Omer Garfield Blankenbaker, Dudleytown, Ind.; Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1904; member of the Indiana State Medical Association; aged 46; died, February 13.

Thomas Slater Jones, Jeffersonville, Ga.; Louisville Medical College, 1887; member of the Medical Association of Georgia; aged 61; died, February 17, at a sanatorium in Macon, of pneumonia, following influenza.

James Harry Walters, Ocala, Fla.; Tulane University of Louisiana School of Medicine, New Orleans, 1912; member of the Florida Medical Association; aged 41; died, February 23, at a local hospital, of pneumonia.

Henry Louis Perrie Naylor, Pikesville, Md.; University of Maryland School of Medicine, Baltimore, 1860; member of the Medical and Chirurgical Faculty of Maryland; aged 87; died, February 19, of heart disease.

Charles Summerfield Hoffman ⊕ Keyser, W. Va.; Jefferson Medical College of Philadelphia, 1877; proprietor of a hospital bearing his name, where he died, February 18, aged 71, of chronic endocarditis.

Charles Bagley, Bagley, Md.; Washington University School of Medicine, Baltimore, 1872; member of the Medical and Chirurgical Faculty of Maryland; aged 77; died, February 13, of paralysis.

Charles Frederick Roan ⊕ Chicago; Northwestern University Medical School, Chicago, 1891; on the staff of the Norwegian American Hospital; aged 60; died, February 15, of myocarditis.

Roy McLeod Munroe ⊕ Temple, Texas; University of Texas Department of Medicine, Galveston, 1913; served during the World War; aged 36; died, February 22, of influenza and pneumonia.

John Henry McGann, Framingham, Mass.; Medical School of Harvard University, Boston, 1898; on the staff of the Framingham Hospital, where he died, February 7, aged 50, of septicemia.

William Thomas Trewyn ⊕ Peoria, Ill.; Northwestern University Medical School, Chicago, 1905; formerly member of the school board; aged 51; died, February 11, following a long illness.

Edgar Barnes Mulford, Bridgehampton, N. Y.; Bellevue Hospital Medical College, New York, 1878; member of the Medical Society of the State of New York; aged 80; died, February 17.

John J. Morgan, Durand, Wis.; University of Buffalo Department of Medicine, 1873,; formerly member of the state legislature; aged 79; died, February 10, of cerebral hemorrhage.

Henry M. Warren, Jonesville, Mich.; Cleveland University of Medicine and Surgery, 1865; aged 85; died, February 15, at Berkeley, Calif., of cerebral hemorrhage and heart disease.

Thomas J. Hillis, New York; Medical Department of Columbia College, New York, 1882; member of the Medical Society of the State of New York; aged 73; died, February 21.

John Pipher, Nampa, Idaho; Eclectic Medical Institute, Cincinnati, 1874; formerly member of the Iowa state legislature; aged 78; died in February, of heart disease.

Henry William Anthony Haase ⊕ Brooklyn; Medical Department of the University of the City of New York, 1881; aged 66; died, January 24, of melanotic sarcoma.

Felix Aloysius Murphy ⊕ Doylestown, Pa.; Jefferson Medical College of Philadelphia, 1901; aged 48; died, February 11, at St. Joseph's Hospital, of septicemia.

Adolph Adam Poehner ⊕ San Francisco; University of Pennsylvania School of Medicine, Philadelphia, 1894; aged 59; died, February 18, of coronary embolism.

Sterling Gibson ⊕ Thomson, Ga.; University of Georgia Medical Department, Augusta, 1879; president of the city board of health; aged 67; died, February 10.

Solomon Lincoln Fairchild ⊕ Hagerstown, Md.; Maryland Medical College, Baltimore, 1910; aged 42; died, February 14, at the Hagerstown Hospital, of pneumonia.

Charles Arthur Lussier, Worcester, Mass.; Victoria University Medical Department, Toronto, Ont., Canada, 1888; aged 63; died, Nov. 21, 1925, of carcinoma.

John E. Herriott, Trenton, Ohio; Cincinnati College of Medicine and Surgery, 1872; formerly a druggist; aged 76; died, February 13, of cerebral hemorrhage.

Alexander C. Wentz ⊕ Hanover, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1882; aged 70; died, February 14, of cerebral hemorrhage.

William Frederick Jones, Paterson, N. J.; University of Vermont College of Medicine, Burlington, 1883; aged 64; died, Oct. 15, 1925, of chronic nephritis.

Seymour M. Hopkins, De Mossville, Ky.; Medical College of Ohio, Cincinnati, 1885; aged 69; died, February 15, at the Good Samaritan Hospital, Cincinnati.

Charles Ellsworth Morse ⊕ Wareham, Mass.; Medical School of Harvard University, Boston, 1892; aged 59; died, February 15, of cerebral hemorrhage.

William Hardy Milliken, Boston; Medical School of Maine, Portland, 1880; aged 68; died, February 17, of cerebral hemorrhage and chronic endocarditis.

John Stillwell Wells, Miami, Fla.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1895; aged 57; died, February 11, following a long illness.

Field Chilson Morgan ⊕ Claremont, N. H.; University of Vermont College of Medicine, Burlington, 1887; aged 59; died, February 14, of angina pectoris.

Thomas Edward Abernathy ⊕ Chattanooga, Tenn.; University of Louisville (Ky.) School of Medicine, 1893; aged 58; died, February 13, of pneumonia.

William Henry Fulton, Akron, Mich.; Eclectic Medical Institute, Cincinnati, 1888; also a minister; aged 71; died in February, of cerebral hemorrhage.

John Henry Smith, Pueblo, Colo.; Bellevue Hospital Medical College, New York, 1875; aged 72; died, February 13, following a long illness.

Jacob Dessinger Albright, Philadelphia; Medico-Chirurgical College of Philadelphia, 1893; aged 56; died suddenly, February 12, of angina pectoris.

John Joseph Gallagher, San Francisco; Cooper Medical College, San Francisco, 1895; aged 56; died recently at San Diego, of sarcoma of the liver.

William Smith Beebe, Kirkwood, N. Y.; University of Michigan Medical School, Ann Arbor, 1867; aged 80; died, in February of heart disease.

Keith E. Hudson, Charleston, Ark.; Vanderbilt University Medical Department, Nashville, Tenn., 1885; aged 72; died, February 7, of pneumonia.

Charles Percy Roberts, Binghamton, N. Y.; Long Island College Hospital, Brooklyn, 1897; aged 53; died, February 20, of epidemic encephalitis.

Stephen F. Leo ⊕ Yonkers, N. Y.; University of Vermont College of Medicine, Burlington, 1890; aged 65; died, February 19, of myocarditis.

Oswald Stewart Allen, Columbus, Ohio; Cleveland University of Medicine and Surgery, 1894; aged 69; died, February 18, of pneumonia.

James L. Lovvorn ⊕ Bowdon, Ga.; University of Georgia Medical Department, 1886; aged 63; died, February 8, following a long illness.

John W. Bennett, Long Branch, N. J.; Medico-Chirurgical College of Philadelphia, 1887; aged 61; died, February 22, of heart disease.

Alfred N. Towles, Indianapolis; Miami Medical College, Cincinnati, 1874; aged 74; died, February 8, of chronic myocarditis.

Lucy Ann Chandler, San Francisco; Eclectic Medical Institute, Cincinnati, 1882; aged 90; died, February 13, of cerebral hemorrhage.

William Henry Gilman ⊕ Cambridge, Mass.; Tufts College Medical School, Boston, 1919; aged 29; died, January 2, of pneumonia.

William Wunderlich, New Orleans; Medical Department, University of Louisiana, New Orleans, 1881; aged 66; died, February 18.

George F. Reiser, Ramsey, Ark.; Medical Department of Washington University, St. Louis, 1898; aged 60; died, February 13.

Abram R. Moist, Dayton, Ohio; Medical College of Ohio, Cincinnati, 1883; aged 81; died, February 12, of cerebral hemorrhage.

Willis Ezra Purdy, Killbuck, Ohio; Columbus Medical College, 1892; aged 58; died, January 22, of chronic nephritis.

George H. Lehmann, Augusta, Ga.; University of Georgia Medical Department, Augusta, 1899; aged 51; died, February 14.

Mary Putnam ⊕ New York; Johns Hopkins University Medical Department, Baltimore, 1915; aged 38; died, February 16.

William Sherman Adair, Kellogg, Iowa; State University of Iowa College of Medicine, Iowa City, 1891; died, January 31.

Thomas J. Phillips, Griffin, Ga.; Baltimore Medical College, 1897; aged 56; died, February 20, of a self-inflicted bullet wound.

Mary Branson, Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1873; aged 79; died, February 8.

Grattan Franklin Starr, Olivesburg, Ohio; Baltimore University School of Medicine, 1889; aged 72; died, in February.

James M. Sloan ⊕ Gastonia, N. C.; Louisville Medical College, 1891; aged 55; died, February 19, at Rochester, Minn.

James S. Loney ⊕ Omaha; Creighton Medical College, Omaha, 1911; aged 39; died, February 17, of pneumonia.

August Paul Richter, Davenport, Iowa (licensed, Iowa, 1887); aged 81; died, February 8, at Santa Monica, Calif.

Daniel Webster Frantz ⊕ Metcalf, Ill.; Barnes Medical College, St. Louis, 1903; aged 58; died, February 23.

Thomas J. Gibbs, Proctor, Mo.; Beaumont Hospital Medical College, St. Louis, 1890; aged 71; died, February 15.

Charles F. Kellogg, Clinton, Iowa (licensed, Iowa, 1886); county coroner; aged 81; died, February 13.

Nelson Durant York, Mebane, N. C.; Louisville Medical College, 1878; aged 74; died, February 25.

Michael H. Levi ⊕ Liberal, Kan.; Atlanta Medical College, 1898; aged 53; died, February 18.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

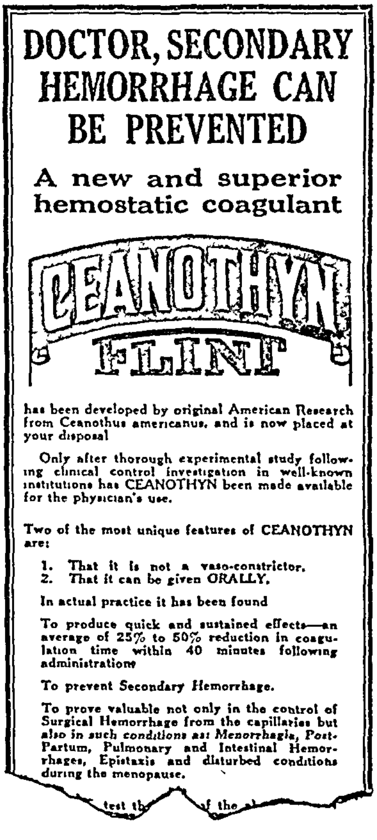
CEANOTHYN NOT ACCEPTABLE FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. Puckner, Secretary.

Ceanothyn is the name applied by Flint, Eaton & Company, Decatur, Ill., to a liquid extractive prepared from the bark of the root of *Ceanothus Americanus* ("Jersey tea"). It is claimed that the product is "standardized" by means of chemical assay and that it contains one milligram of the "mixed alkaloids" of *Ceanothus Americanus* per cubic centimeter.



DOCTOR, SECONDARY HEMORRHAGE CAN BE PREVENTED

A new and superior hemostatic coagulant

CEANOTHYN FLINT

has been developed by original American Research from Ceanothus americanus, and is now placed at your disposal

Only after thorough experimental study following clinical control investigation in well-known institutions has CEANOTHYN been made available for the physician's use.

Two of the most unique features of CEANOTHYN are:

1. That it is not a vaso-constrictor.
2. That it can be given ORALLY.

In actual practice it has been found

To produce quick and sustained effects—an average of 25% to 50% reduction in coagulation time within 40 minutes following administration

To prevent Secondary Hemorrhage.

To prove valuable not only in the control of Surgical Hemorrhage from the capillaries but also in such *conditions as: Menorrhagia, Post-*Partum, Pulmonary and Intestinal Hemorrhages, Epistaxis and disturbed conditions during the menopause.

test th f the

Reports on the alkaloidal content of *Ceanothus Americanus* have been published (Gerlach, F. C.: *Am. J. Pharmacy* **63**:332, 1891. Gordin, H. M.: *Pharm. Rev.* **18**:266, 1900). But neither these studies nor the investigation carried out for Flint, Eaton & Company, after the mixed alkaloids had been "isolated" by the firm's chemist, accomplished the isolation of a pure product. On the contrary, the investigation made for the firm indicates that the alkaloidal yield is variable and that it is difficult or impossible to prepare the alkaloid or alkaloids in a pure state. No evidence is available to warrant the claim that the uniform action of "Ceanothyn" is ensured by the "standardization."

Ceanothyn is claimed to be a vaso-dilator and hemostatic. It "is recommended for the control of hemorrhage, in surgical procedure, post partum hemorrhage, pulmonary hemorrhage, epistaxis, and disturbed conditions during the menopause." A label on the trade package reads (in part):

> "This product contains the hemostatic action of the alkaloid ceanothine. Ceanothyn is indicated as a general hemostatic agent. It can be used to control various forms of hemorhage, bleeding, etc. Particularly valuable in menorrhagia, and post partum hemorrhage."

A circular for Ceanothyn contains a reproduction of a kymographic tracing and the claim that "in a series of experiments, on normal cases, the blood coagulation time was reduced 25 to 50 per cent." It is claimed that the coagulative effect is sustained over a period of several hours. The details of the method of testing the influence of Ceanothyn on coagulation are not supplied and in their absence the claimed power of coagulation cannot be accepted.

It is claimed in the circular that ". . . investigation so far indicates that the drug Ceanothyn possesses distinct vasodilator properties, lowering the arterial tension with apparently no untoward effect on the kidney or heart action." Little definite information, however, is afforded by the tracing aside from the fact that the blood pressure actually fell. The blood pressure tracing was apparently taken with a mercury manometer. The blood pressure, which, before the injection, was 110, began to fall after twenty-five seconds and in about seventy-five seconds after the injection, had fallen to one-half of its previous height. It then rose gradually in about five minutes, and about five minutes later it had returned to the original level. In this connection the circular contains the following statement:

> "The first reaction indicates the effect of an intravenous injection of the purified alkaloids of *Ceanothus Americanus.* The injection is followed by a decided fall in kidney volume and blood pressure. The reaction to the drug is pronounced and sustained. A careful pulse count shows no effect has been produced on the heart. . . ."
>
> "The second reaction shown indicates the result of the administration of Ceanothyn. The effect produced is almost identical with that of the alkaloid, and indicates that the activity of Ceanothyn is due to the presence of the alkaloid which it contains."

It is curious that the vaso-dilation should be accompanied by a fall in the kidney volume, and inspection of the tracing strongly suggests that the kidney volume actually increased, as one would expect, with the fall of blood pressure. The record of the kidney volume has the general appearance of an inverted pulse tracing since the oscillations correspond in number with the pulse beats. If the oscillations of renal volume are caused by the arterial pulse, they indicate that the pulse is weaker during the fall of blood pressure since these oscillations are clearly very much smaller than before the injection or after the blood pressure has returned to its previous level.

Since the fall in blood pressure is temporary, it is not justifiable to say that this reaction to the drug is pronounced and sustained. There is even less justification for the statement that a careful pulse count shows no effect has been produced on the heart, and it is quite impossible from the evidence submitted to determine whether the fall in blood pressure was due to vaso-dilation or to a weakened heart. No evidence is submitted to substantiate these claims. Reliance on Ceanothyn to control post partum hemorrhage or to control hemorrhage in surgical operations would probably result in serious consequences. No acceptable clinical evidence is offered for the extensive therapeutic recommendations which are contained in the advertising.

The Council found Ceanothyn unacceptable for New and Nonofficial Remedies: (1) because its composition is uncertain; (2) because no tests are furnished to control its identity and uniformity; and (3) because no satisfactory evidence for its therapeutic value has been submitted.

When the preceding report was sent to Flint, Eaton & Company, the firm agreed not to stress the vaso-dilator action of Ceanothyn and to withdraw the circular to which objection was made. The Council, however, found that the objections which make Ceanothyn unacceptable have not been met and, therefore, authorizes publication of its report.

Smallpox Inoculation Among Dyaks.—A case of smallpox was found on board a steamer at Sibu, 60 miles up the Rejang River. I had this case isolated, and for some time it was believed that no infection had taken place from it. It appears, however, that a Dyak from another district passed through Sibu on his way to his home up-river, and developed the disease about the time of his arrival at his house in the Ulu Poi. Nearly half of the inhabitants of the long house became infected, the remainder running away into the jungle. There were said to be some eighty-eight cases in all, of which twenty-six were fatal. About two weeks after the commencement of the outbreak, so the story goes, the "tua rumah," or headman of the house, had a dream, sent by the "hantu puru," or smallpox spirit, which bade those who had fled into the jungle return to their house, where the "tua rumah" was to inoculate them. This he did from the vesicles, not pustules, of mild cases of smallpox.—Reed, J. G.: *Tr. Roy. Soc. Trop. Med. & Hyg.* **19**:265 (Oct.) 1925.

Correspondence

"REACTION OF NORMAL PERSON TO TUBERCULIN"

To the Editor:—In going over the reply to the inquiry on this subject (The Journal, February 6, p. 437), it seems to me that your answer is somewhat confusing. I was particularly interested in it, as the quotation from Tice's Practice of Medicine evidently is not taken from the last edition. The dosage given in the quotation is not intended for use in the tuberculin test but in treatment.

In the last article on pulmonary tuberculosis, which Dr. Hayes and I revised, a different dose is suggested. I am inclined to believe that your quotation from Koch refers to a typical reaction occurring in a patient who has definite tuberculosis and not the reaction that might possibly occur in a normal and healthy person. If the normal and healthy person is young, no reaction whatever will, of course, occur even to 1 cc. of tuberculin. Koch, I think, states that those who are apparently healthy do not react to 0.001 cc. of tuberculin. Lawrason Brown, M.D., Saranac Lake, N. Y.

"THE REWARDS OF GOVERNMENT SERVICE"

To the Editor:—In the editorial (The Journal, January 23, p. 278) entitled "The Trend of Veterans' Relief Legislation: State Medicine," the following sentence conveys a bad impression and should be modified: "The rewards of government service are not now generally such as to attract the type of men who seek to become physicians or to hold them after they have once entered the service."

That the government services do not offer a favorable field for the professional money maker is admitted. It is not, however, admitted that "men who seek to become physicians" are not attracted to the navy (I speak for that branch of government service only) by the guaranteed (if too small) salary; by the opportunity for doing scientific work; by the generously supplied equipment; by the opportunity for travel, with its professional and cultural advantages; by the opportunity to do postgraduate work at government expense at various clinics throughout the world; by the prestige accorded to those doing a patriotic service, and by the retired list, which provides for the medical officer who is disabled by age or disease.

Naval hospitals are approved by the American Medical Association for required intern service. Twenty-one interns entered the Naval Medical Corps in 1923. Of these, five resigned and one died, leaving a net gain to the Naval Medical Corps of fifteen. Sixty-four passed examinations in 1924 and were accepted as interns in naval hospitals; of these, fifteen resigned and forty-nine "men who seek to become physicians" are still in the Naval Medical Corps. Fifty-five were commissioned in 1925. Their periods of internship have not yet expired, but at this writing not one has officially signified his intention to resign. They appear to be held by the "rewards of government service."

I am president of the board which examines candidates for admission to the Naval Medical Corps, and hence give with authority information concerning the large examination held in January, 1926, to fill thirty-five vacancies in the Naval Medical Corps. Two hundred and forty-one permits were issued authorizing appearance for examination. Some of those authorized did not appear. A number were rejected as physically unfit. The following quotations from the deans of the medical schools from which these candidates graduate indicate the professional quality of the aspirants: "He has made the highest average in the present senior class numbering 140." "Stands no. 1 or no. 2 in his class; I recommend him entirely without reservation." "Stands in the middle third of his class." A distinguished medical teacher wrote concerning the honor man in the senior class at his school, "I advised this application because I believe the medical service of the Navy offers exceptional opportunities. I was much impressed by the scientific point of view, the training and the enthusiasm shown at a staff meeting of the San Diego Base Hospital which I attended last summer."

Ninety-two men completed this professional examination. Since these ninety-two physically qualified men competed in a rigorous professional examination in an effort to secure one of thirty-five vacancies, can it be said that these "men who seek to become physicians" are not attracted to government service (in the navy, at least)?

James C. Pryor, M.D., Washington, D. C.
Captain, Medical Corps, U. S. Navy,
Commanding, U. S. Naval Medical School.

"FALLACIES OF THE 'YEAST METHOD' OF DETECTING GLUCOSE IN THE URINE"

To the Editor:—In The Journal, February 20, there is a paper by Drs. Aldo Castellani and F. A. Taylor, entitled "Fallacies of the 'Yeast Method' of Detecting Glucose in the Urine," which begins with the sentence: "In several of the best known manuals of pathology and clinical methods, it is stated that the fermentation test by means of yeast is the only absolutely certain and specific test for glucose." This statement is correct, excepting that "sugar" should be substituted for the word "glucose." The authors mention experiments demonstrating that yeast ferments with gas formation not only glucose but also levulose, maltose, galactose and saccharose. Then they say: "When urine is fermented by bakers' yeast, we cannot therefore come definitely to the conclusion that the fermentable substance is glucose; it might be galactose, maltose or other sugars. To detect glucose, recourse should be made to the really specific germs for that sugar; i. e., germs that will ferment glucose only with production of gas and no other carbohydrate."

The value of the fermentation test for detecting sugar in the urine consists in two points: 1. Fermentation takes place with most kinds of sugars: dextrose, levulose, galactose, etc. 2. Many substances of a reducing type existing in the urine and not belonging to the carbohydrates do not give the reaction with yeast; i. e., do not ferment.

When a urine is examined in regard to sugar, the uppermost question is: Is there any sugar present or not? The type of sugar, whether grape sugar or some other similar substance, can be determined, if necessary, later on and is of secondary importance. To have a special yeast cell or monilia which would show only one type of sugar and not the others would complicate matters, make the reaction more difficult for the practitioner, and detract greatly from the usefulness of the test as at present practiced with Fleischmann's yeast.

With reference to the impurities sometimes encountered in bakers' yeast, a control test with normal urine will quickly show whether the yeast contains sugar or not.

I am quite sure that most clinicians will agree with me that the fermentation test for the detection of sugar in the urine, especially in doubtful cases, will keep its place in medicine.

Max Einhorn, M.D., New York.

[Note.—The letter of Dr. Einhorn was referred to Dr. Castellani, who replies:]

To the Editor:—The ordinary yeast method may tell us that the urine contains a fermentable substance; the new mycologic method tells us this and in addition tells us what the fermentable substance is. Dr. Einhorn states that the type of sugar present is of secondary importance. With this statement I am unable to agree. It seems to me that also from a practical point of view it is of importance to differentiate between glucose, maltose, galactose, lactose and pentose, and a method that enables us to do this in a fairly easy and rapid manner is perhaps of some utility.

Aldo Castellani, M.D., New Orleans.

DIAGNOSIS OF PITUITARY DISEASE

To the Editor:—In The Journal, January 2, page 31, Dr. Sigurd W. Johnsen reports a case of pituitary disease in a boy, aged 4. This is apparently not a case of pituitary disease, but a classical example of "pubertas praecox," a condition associated most commonly with pinealomas, as discussed in a recent paper by Horrax and Bailey (*Arch. Neurol. & Psychiat.* **13**:423 [April] 1925). The literature on the pituitary body is already overburdened with a mass of conflicting opinions and theories of clinicians, experimental physiologists and pathologists. In the case referred to the only evidence of pituitary disease is a roentgenogram of an enlarged sella. This may be produced by a cerebral tumor or internal hydrocephalus, as well as a pituitary neoplasm.

E. B. Fink, M.D., Chicago.

[The letter of Dr. Fink was referred to Dr. Johnsen, who replies:]

To the Editor:—It is true that the literature on the pituitary body is a mass of conflicting opinions and theories. The same is true, however, for many of the other ductless glands. Who will set himself up as the authority to decide what clinical symptoms or syndromes are characteristically associated with pathologic changes in the pituitary body, in early as well as the later stages?

Cushing has reported cases which clinically simulate the case which I reported as being due to hypersecretion of the suprarenal bodies. Bailey has reported somewhat similar cases as being due to hypersecretion of the pineal body.

Barker has described such cases as being due to hypersecretion of the pituitary body.

Edward B. Towne, in speaking of ossification changes before the epiphyseal cartilages are ossified, says: "If ossification is incomplete there is excessive skeletal growth resulting in fairly normally proportioned gigantism primarily of pituitary origin."

The case I reported is a typical picture of what has commonly been known as hyperfunction of the anterior pituitary lobe. There is definite change in the ossification of the bones, and a positive marked enlargement of the sella turcica without any symptoms of cerebral tumor, internal hydrocephalus or suprarenal hypersecretion.

Only pathologic examination or further developments of the case will shed more light.

Sigurd W. Johnsen, M.D., Passaic, N. J.

ENGLISH WEIGHTS AND MEASURES

To the Editor:—The comment on the use of the English weights and measures by Americans (The Journal, February 6) is timely and well taken. Foreign journals may well point out that physicians and scientific men would be even more appreciated abroad if the metric system were generally recognized in this country. But why comment when immediate and helpful action may be taken to bring about a universal standard? A bill (H. R. 10) has been introduced into the U. S. House of Representatives by Congressman Fred A. Britten of Illinois to extend the use of the metric weights and measures in merchandising after Jan. 1, 1935, and has recently been referred to the Committee on Coinage, Weights and Measures, of which Hon. Randolph Perkins of New Jersey is chairman. Letters written to the chairman and other members of the committee will undoubtedly aid in the passage of this bill. Francis L. Burnett, M.D., Boston.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

RADON

To the Editor:—I have been using radon, generated by a "radium emanation" apparatus, for the last six months as an adjunct in the treatment of arthritis. In The Journal, Dec. 5, 1925, appeared an article concerning the deleterious cumulative effects of radium when taken internally as with these machines. Please furnish me with any information that would tell me whether or not the emanation taken into the body is expelled in a short time, about three hours, as claimed by the manufacturers, or is it accumulated into the body with the possible effects as outlined in the article. I will be very grateful for a personal reply.

S. S., Connecticut.

Answer.—Emanation is the active gaseous disintegration products of the radioactive elements. Three emanations are known: radon (from radium), thoron (from thorium), and actinon (from actinium). The term "emanation" is still, unfortunately, used as synonymous with "radiation." Recognizing this difficulty, some time ago Sir William Ramsay suggested that the term "radium emanation" be supplanted by the name "niton." This, however, found no general approval. More recently the International Committee on Chemical Elements, in the report for the year 1923, has suggested, with the approval of Professor Rutherford and Madame Curie, the names "radon," "actinon," and "thoron" to replace the corresponding terms "radium emanation," "actinium emanation" and "thorium emanation," and this change seems to be meeting with approval (glossary of Terms in Radioactivity and Radiumtherapy by Charles H. Viol, 1925). New and Nonofficial Remedies now uses radon as the designation for radium emanation.

When radon, for instance, is introduced into the ionization chamber of an electroscope or electrometer, there is deposited on the inside a nonvolatile disintegration product known as the active deposits. Four or five days must elapse and the chamber be deemanated before it can be used again for other readings. These active deposits have products of rapid change, such as radium A, radium B, radium C_1 and radium C_2 (which are identical with polonium, lead, bismuth and thallium, respectively) and products of slower decay. The one-half life period of radon is 3.85 days and of thoron one and one-half minutes. Radon is, therefore, short lived and should have no cumulative effects. In the paper published in The Journal, it was stated that "from our experience it would appear that the intravenous injection of long lived radioactive elements or the internal administration of radium, mesothorium or radiothorium is highly dangerous on account of the late harmful effects." This is due to the deposit of insoluble particles of these elements in the storage organs; namely, the bones, spleen and liver. If the products used are soluble they behave the same, since they are converted in the body into insoluble products and a certain amount is permanently stored after elimination of a considerable portion by the kidneys, feces, bile, etc. It was further stated that "this does not apply to the use of short lived emanation."

In regard to radium waters, the article said: "Should the waters contain radium or mesothorium in solution, their use would be distinctly dangerous on account of late accumulative effects." Should the water contain radon or thoron only, a great amount would be lost in the air before it could be swallowed, and gallons would have to be drunk quickly to introduce even minute amounts in the body.

Radon taken internally by mouth or by inhalation is diffused throughout the body the same as any other gas. It is exhaled rapidly, a certain amount being eliminated by the kidneys. The elimination of ingested radon in the healthy adult is practically completed in from fifteen to twenty minutes. Radon, however, when taken internally, before it is eliminated produces active deposits or a series of other radioactive elements, each being a rayer, and each having a shorter or longer period of life. Some of these deposits are eliminated rapidly from the body before their decay. Others behave as colloids, especially radium B, radium G and radium F, and will remain in the body until their own decay. Complete elimination of the active deposits is usually effected in about ten hours after ingestion, with the exception of lead, which will remain for a long time and be deposited in the organs of the reticulo-endothelial system. Its amount, however, is so small that it becomes negligible.

Therefore, radon has practically no cumulative properties and there should be no danger from storage effects in its use. Of course, its use is subject to the same dangers as may be encountered in the massive, prolonged or abusive use of any radioactive product, but there should be no permanent storage, except the minute amount of lead coming from the active deposits, the rest of which is eliminated.

As regards the use of radon or any other form of radioactivity in chronic medical conditions, such as chronic arthritis or arteriosclerosis, it was stated that, "apart from the specific effect of radioactivity on the blood forming apparatus, . . . radioactivity has not proved to be a specific therapeutic agent in any condition in internal medicine."

It is difficult to recognize specific results from its use. One might obtain some symptomatic improvement, such as lowering of systolic blood pressure or increase in erythrocytes (due to irritative effects), provided it is given in sufficient dose.

Many of the so-called emanators or activators on the market do not furnish the patient with a sufficient amount of emanation to produce even such slight beneficial effects. Treatment with such inefficient apparatus can have only a psychic effect on the patient, perhaps also on some physicians, and is mere charlatanism.

CANNED HEAT — DROWNING

To the Editor:—1. Kindly give me the chemical composition of "canned heat." One of the popular brands that I have in mind is Sterno Heat, but I presume that they all have practically the same content. 2. Also please state just what is the strongest evidence of a person drowning in a pool. It is frequently stated that people are suddenly stricken with a heart attack while in water and that this is the cause of death rather than drowning. What would be the best evidence, post mortem, in such a case?

M.D., Miss.

Answer.—1. "Canned heat" is a jelly that commonly contains denatured alcohol as the source of heat. The solidification is brought about by the use of one or more of the following substances: stearic acid, synthetic tristearin, sodium sebate, cellulose tetranitrate, soap or lac.

2. There is no single pathognomonic sign of death by asphyxia from submersion in water. Study must be made of all the appearances and conditions. In addition to the congestions and other signs of death by asphyxia in general, a fine lathery foam in the larynx, trachea and bronchi is highly characteristic of drowning but may disappear if the body remains in the water for a week or longer and in a few hours after removal of the body from the water, and especially as putrefaction sets in. In order to observe carefully the conditions in the respiratory tract, it is best to examine the parts in situ. The presence of water in the respiratory tract and in the stomach is of course of great value, and in some cases its identity can be established from the presence of characteristic particles. The amount of water in the lungs may not be more than a few cubic centimeters, as it diffuses rapidly into the tissues. The presence of a considerable amount of water in the stomach, with perhaps mud, sand or vegetable matter, is of course obviously highly significant. "Gooseflesh" skin may result from submersion during life. The hands may grasp substances in the water, and there may be mud or sand under the nails. The determination of the chloride content in the blood of the heart is of value. Normally the chloride content in the blood of the two sides is about the same, but in drowning in fresh water dilution of the blood on the left side from absorption of water gives it a lower content in chlorides; in drowning in salt water, the chloride content on the left side will be greater than on the right. In any case the difference will depend on the amount of water entering the lungs and on the interval between the entrance of the water and death. No water enters the left heart if a person is thrown into water after death.

When death results from syncope, which is said to be the cause of death in 1 or 2 per cent of all cases of drowning, there may be present none of the conditions mentioned in the foregoing as characteristic of death from submersion in water, and in such cases there may be no positive, conclusive evidence as to the mode of death obtainable from postmortem examination. Of course, the conditions and circumstances in conjunction with the results of the necropsy must be considered in reaching conclusions. The thymicolymphatic constitution is believed to favor death from the shock of immersion before asphyxia has time to develop.

INCREASE IN DEATHS FROM DIABETES

To the Editor:—Are statistics available for the approximate number of cases of diabetes mellitus in the United States now and also for, say, 1905?

E. R. Walker, M.D., Ottumwa, Iowa.

Answer.—Morbidity statistics of diabetes do not seem to be available. The Statistical Bulletin of the Metropolitan Life Insurance Company (7:9 [Jan.] 1926) under the heading of death rates per hundred thousand for principal causes, premium-paying business in industrial department 1915 to 1925 (ages 1 and over), gives the following:

Year	Deaths from Diabetes Mellitus
1925	15.5
1924	15.1
1923	16.2
1922	17.2
1921	15.5
1920	14.1
1919	13.4
1918	14.0
1917	15.3
1916	15.9
1915	15.1

Elliott P. Joslin (The Treatment of Diabetes Mellitus, ed. 3, 1923, p. 111) gives the deaths per hundred thousand of population in the registration area of the United States as follows:

Year	Deaths from Diabetes
1900	9.7
1901	10.3
1902	10.4
1903	11.3
1904	12.9
1905	13.0
1906	13.0
1907	13.9
1908	13.9
1909	14.4
1910	14.9
1911	14.9
1912	15.0
1913	15.3
1914	16.2
1915	17.5
1916	17.1
1917	17.0
1918	15.9
1919	14.9
1920	16.1
1921	16.8

In the same volume by Joslin, section II, D, "Incidence," considerable relevant material appears:

> Such a rapid rate of increase as took place between 1880 and 1910 is evidence of itself that a fallacy exists somewhere in the statistics. . . . This rapid rise in mortality in 1914, 1915 and 1916 I believe attributable to the increased attention devoted to this disease by the medical profession and by the newspapers, following the announcement of a new method of treatment by F. M. Allen.
>
> For the total number of diabetics in the United States no accurate figures are available.
>
> For the present it is probably safe to state that the number of individuals in the country who either have diabetes or will develop it is about 1,000,000.

As an explanation of the statistical increase in diabetes Joslin gives:

> (*a*) Greater accuracy of vital statistics.
>
> (*b*) More frequent urinary examinations.
>
> (*c*) General increase in duration of life.
>
> (*d*) Life insurance statistics.
>
> (*e*) Frequency by decades at which onset occurs now and formerly. Increase in the percentage of cases in the first decade as compared with a generation ago speaks emphatically in favor of the better diagnostic methods of today rather than of actual increase in the frequency of the disease.
>
> (*f*) The importance of recognition of the extent of diabetes in the community and its influence on treatment.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arkansas: Little Rock, May 11-12. Sec., Dr. J. W. Walker, Fayetteville. Homeo. Board, Little Rock, May 11. Sec., Dr. A. A. Pringle, Eureka Springs. Eclectic Board, Little Rock, May 11. Sec., Dr. Claude E. Laws, Fort Smith.

Colorado: Denver, April 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

District of Columbia: April 13. Sec., Dr. Edgar P. Copeland, 1801 Eye St., Washington, D. C.

Idaho: Boise, April 6. Commissioner of Law Enforcement, F. A. Jeter, Boise.

Illinois: Chicago, April 6-8. Supt. Regis., Mr. V. C. Michels, Springfield.

Minnesota: Minneapolis, April 6-8. Sec., Dr. Thomas McDavitt, 734 Lowry Bldg., St. Paul.

Montana: Helena, April 6-8. Sec., Dr. S. A. Cooney, Helena.

National Board of Medical Examiners: Part I, June 21-23; Part II, June 22-23. All applications should be made on or before May 15. Sec., Dr. J. S. Rodman, 1600 Walnut Street, Philadelphia.

Nevada: Carson City, May 3. Sec., Dr. Simon L. Lee, Carson City.

New Mexico: Santa Fe, April 12-13. Sec., Dr. W. T. Joyner, Roswell.

Rhode Island: Providence, April 1-2. Sec., Dr. Byrum U. Richards, Providence.

Texas: Dallas, American Board of Otolaryngology, April 19. Sec., Dr. W. H. Loeb, 1402 South Grand Blvd., St. Louis, Mo.

Utah: Salt Lake City, April 6. Director, Mr. J. T. Hammond, Salt Lake City.

Maine November Examination

Dr. Adam P. Leighton, Jr., secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, Nov. 10-11, 1925. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 11 candidates examined, 10 passed and 1 failed. Three candidates were licensed by reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
Boston University School of Medicine	(1925)	78
Columbia University College o		88
Dalhousie University Faculty		82
University of Toronto Faculty of Medicine	(1924)	82
McGill Univ. Faculty of Med.	*(1919) 88, (1924) 86, (1925)*	83
University of Montreal Faculty of Medicine	(1925)	80
University of Berlin, Germany	(1914) 83, (1924)*	76

College FAILED	Year Grad.	Per Cent
University of Montreal Medical Faculty	(1925)	70

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Harvard University	(1923)	Vermont
Eclectic Medical Institute, Cincinnati	(1896)	Missouri
University of Berlin, Germany	(1914)	Minnesota

* Verification of graduation not completed by the American Medical Association.

Maryland December Examination

Dr. Henry M. Fitzhugh, secretary of the Board of Medical Examiners of Maryland, reports the written examination held at Baltimore, Dec. 8-11, 1925. The examination covered 9 subjects and included 90 questions. An average of 75 per cent was required to pass. Of the 28 candidates examined, 26 passed and 2 failed. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
George Washington University Medical School	(1925)	87
Johns Hopkins University Medical Department	(1922)	90, (1924) 88, (1925) 83, 90.4, 91
University of Maryland School of		85, 85.2, 91, (1925) 80, 83, 83, 83.3, 83.4,
University of Buffalo Department	925)	84, 92
Jefferson Medical College of		81.4, 84.3
Temple University Departmer		89
University of Virginia Depar		83
University of Manitoba Facul		93
McGill University Faculty of Medicine	(1923)	87.7
Ekaterinoslaw State Medical Academy, Russia	(1921)*	81

College FAILED	Year Grad.	Per Cent
National University of Athens, Greece	(1922)*	41
University of St. Vladimira, Kief, Russia	(1922)*	60

* Verification of graduation not completed by the American Medical Association.

Dr. Fitzhugh also reports that 8 candidates were licensed by reciprocity and 1 by endorsement of his credentials at the meetings held on Oct. 14 and Nov. 12, 1925. The following colleges were represented:

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
Georgetown University School of [illegible]	[illegible]	Dist. Colum.
State University of Iowa College [illegible]		Iowa
University of Maryland School of [illegible]		Virginia
St. Louis College of Physicians and Surgeons	(1909)	Indiana
Leonard Medical School, Raleigh	(1903)	S. Carolina
Eclectic Medical College, [illegible]	[illegible]	Ohio
Memphis Hospital Medical [illegible]		[illegible]ssissippi
University of Virginia De[illegible]		[illegible] Colum.

ENDORSEMENT OF CREDENTIALS

College	Year Grad.	Endorsement with
University of Pennsylvania School of Medicine	(1924)	N. B. M. Ex.

District of Columbia January Examination

Dr. Edgar P. Copeland, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, D. C., Jan. 12-14, 1926. The examination covered 16 subjects and included 80 questions. An average of 75 per cent was required to pass. Of the 16 candidates examined, 13 passed and 3 failed. Four candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
George Washington University Med. School	(1925)	84.1, 85.3, 86.9, 90.3
Howard University School of Med.	(1925)	75.5, 76, 81.1, 86.3, 86.4, 86.8
Maryland Medical College, Baltimore	(1906)	77.4
University of Pennsylvania School of Medicine	(1894)	87.9
Meharry Medical College	(1925)	80.9

FAILED

College	Year Grad.	Per Cent
Howard University School of Medicine	(1925)	65.5, 72.6
Loyola University School of Medicine	(1919)	71.8

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
Georgetown University School of Medicine	(1908)	Maine
University of Pennsylvania School of Medicine	(1891)	Tennessee
	(1908)	Pennsylvania
University of West Tennessee Col. of Med. and Surg.	(1907)	Tennessee

Arkansas November Examination

Dr. James W. Walker, secretary of the Arkansas Board of Medical Examiners, reports the written examination held at Little Rock, Nov. 10-11, 1925. The examination covered 12 subjects and included 120 questions. An average of 75 per cent was required to pass. Four candidates were examined, all of whom passed. Eighteen candidates were licensed by reciprocity. The following colleges were represented:

LICENSED BY EXAMINATION

College	Year Grad.	Number Passed
University of Arkansas School of Medicine	(1915)	1
Washington University School of Medicine	(1909)	1
Meharry Medical College	(1903)	1
University of Tennessee College of Medicine	(1925)	1

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
University of California Medical School	(1924)	California
Northwestern University Medical School	(1922)	Illinois
Rush Medical College	(1887)	Kansas
Kentucky School of Medicine	(1894)	W. Virginia
Louisville Medical College	(1907)	Oklahoma
Tulane University of Louisiana School of Medicine	(1908)	Mississippi
	(1917), (1924), (1925)	Louisiana
Barnes Medical College, St. Louis	(1900)	Oklahoma
St. Louis University School of Medicine	(1908)	Illinois
Western Reserve University School of Medicine	(1916)	Mississippi
College of Physicians and Surgeons, Memphis	(1911)	Oklahoma
Meharry Medical [illegible]	[illegible]	Tennessee
Memphis Hospital [illegible]		Mississippi
University of Tenn[illegible]		Tennessee
Vanderbilt Univers[illegible]		Tennessee

Importance of Massage.—In 460 B. C., Hippocrates, a noted Greek physician, made the following statement in relation to rubbing: "Things that have the same name have not always the same effect. Rubbing can bind a joint that is too loose and loosen a joint that is too rigid. Rubbing can make flesh or cause flesh to waste." Hippocrates might also have added that rubbing can have a stimulating or a sedative effect on the nerves. In order to gain these desired effects the operator must exercise both reason and intelligent understanding, two very important factors, if good results are ever to be accomplished in this kind of work.—Macmillan, M.: Massage and Therapeutic Exercise, 1925, p. 63.

Book Notices

Treatment of Kidney Diseases and High Blood Pressure. Part I. Practical Manual for Physicians and Patients. By Frederick M. Allen, M.D. Cloth. Price, $3. Pp. 210, with 2 illustrations. Morristown, N. J.: The Physiatric Institute, 1925.

Monographs based on personal experiences obtained under ideal conditions furnish the less experienced reader with the particular information he most desires. The larger volumes often leave the reader stranded as to which course to follow. Dr. Allen's book is intended for both the practitioner and the patient. It is, however, only in the selection of menus and in the performance of the simpler urine test that any benefit will accrue to the patient. In view of the increasing frequency of cardiovascular renal disease as disclosed by life insurance statistics and recruiting stations, the author believes that more attention should be paid to these conditions. He emphasizes the rôle of infections and feels that there is an inherited vulnerability to these diseases. Endocrine disturbances and absorption from the intestinal tract play no part in the etiology. All foci of infection should be removed, and watchfulness in the course of acute infectious diseases should be the byword. Nitrogen retention, edema and hypertension form the trilogy of symptoms. Edema is metabolic, cardiac and renal in origin. Martin Fischer's theory is discarded. The author believes that increased vascular permeability, due to changes in the blood and a reduction in the water binding power of the blood, are the causes of edema. A systolic blood pressure above 140 is hypertension, and hypertension does not exist in the presence of a normal kidney. These statements will probably not go unchallenged. Dr. Allen accepts Volhard's theory of the cause of hypertension; viz., general arterial thickening, pathologic vagoconstriction and proliferative changes in the capillaries. He believes that because a vascular spasm precedes any serious change, early proper management of these cases can keep the process stationary and thus offer a good prognosis. The essentials of treatment are salt restriction and a lowered protein intake, depending on the amount of nonprotein nitrogen bodies, of which urea is the most important. The water intake in most cases can be guided by the patient's thirst. In cases of high retention with good urinary excretion the water intake can be increased, as thereby the protein excretion will be increased. He considers high protein feeding as risky. Three protein diets are suggested, 30, 60 and 90 Gm., which will satisfy all requirements. Salt restriction is by far the most important single element in treatment. Dr. Allen and his co-workers have based their conclusions on 328 cases that they have personally treated. A urinary salt excretion of not more than 0.5 Gm. is the goal. They feel that if the patients are seen early the condition, and the course of treatment prescribed is accurately persisted in, the progress of the condition will be halted. Salt restriction is of value also in hypochlorhydria, some cases of diarrhea, enuresis of children, diabetes insipidus, edema of heart disease, some forms of obesity, edema of malnourished infants, pulmonary edema, diabetic gangrene, exudations, venous stasis, and other conditions in which edema may occur. The chapters on technic give formulas for the reagents and the methods of performing the commoner and necessary tests. The chapters on diet give the methods of making up a diet and some diets in use by the author. While there may be statements with which one might disagree, for the purpose with which it is written the book is of considerable value to the reader because of its straightforwardness and definiteness. Other writers may have different experiences and arrive at different conclusions.

Science and the Modern World. Lowell Lectures, 1925. By Alfred North Whitehead, F.R.S., Sc.D., D.Sc., Fellow of Trinity College in the University of Cambridge. Cloth. Price, $3. Pp. 296. New York: The Macmillan Company, 1925.

This is a study of the growth of modern thought, particularly with reference to the background of scientific progress, which has governed modern thought in the last two centuries. Special attention is given to the physical theories, such as molecular, quantum and relativity, which are explained in quite understandable language. The author's conception is that there is no warfare between science and religion, but that religion has been undergoing a series of defeats during the development of modern science, and modifying its conceptions accordingly. Thus the growth of knowledge will lead eventually to a religious view which will be able to bear the brunt of scientific investigation.

Pathologie und Klinik der Nierenerkrankungen (Nephrosen, Nephritiden und Schrumpfnieren). Von Dr. Fritz Munk, a. o. Professor für innere Krankheiten an der Universität, Berlin. Second edition. Paper. Price, 25,50 marks. Pp. 661, with 76 illustrations. Berlin: Urban & Schwarzenberg, 1925.

This is an exhaustive work on the medical diseases of the kidney, from the standpoint of general diseases of the entire organism rather than purely local renal affections. The first section is concerned with the anatomy and physiology of the kidneys, the characteristics and methods of examination of the urine, and functional tests. The latter include the concentration and dilution tests with dry and fluid diets, the ability to excrete sodium chloride and nitrogen, the significance of Ambard's quotient, and the nitrogen in the blood, as well as the various dye tests. The author discusses the significance of the functional tests, giving the conditions in which they are clinically useful, and those in which the salt and water excretion tests may be dangerous. Several examples of results in different kidney diseases help to make the subject clear. The diseases of the kidneys, except the surgical conditions, are divided into the nephroses or degenerative changes, the nephritides or inflammatory changes, and the primary contracted kidney of essential hypertension. The section on the nephroses begins with a description of the different degenerative changes that may occur in the renal epithelium, with the possible causes of each type. Then there is a detailed study of the renal changes in the common infectious diseases, in which the author gives his conception of the "kidney of infection." This is a condition of epithelial necrosis, with hyperemia and hemorrhage in the glomeruli from toxic injury. Lipoid nephrosis, occurring in syphilis, and secondarily in the course of glomerular nephritis, is discussed at considerable length. The author emphasizes its nature as a general disease, due to changes in the cell colloids throughout the body, causing its chief symptom, edema. He indicates the importance for diagnosis of the doubly refractive lipoid substances in the urine, and outlines the treatment. The renal changes in pregnancy and amyloidosis of the kidney are briefly described. No mention is made of sinus infections with staphylococci, recently suggested as an important etiologic factor in nephrosis. Of the nephritides, or inflammatory renal diseases, glomerular nephritis is the most important. The general pathology of inflammation in the kidney is described, and the conception of glomerular nephritis as a general disease of the vascular system, involving especially the capillaries, is set forth. Concerning the etiology, the importance of streptococcus infections, chiefly of the throat, appendix and skin, with the exception of erysipelas, is emphasized; also the fact that the infectious diseases, except scarlet fever, are not factors. The symptoms, course of the acute stage and its possible outcome in secondary lipoid degeneration or the secondary contracted kidney, and the treatment are discussed. There is a section on uremia, with the different theories of its causation. The other forms of inflammatory change are taken up briefly, focal and embolic nephritis, the special interstitial nephritis of scarlet fever, and suppurative nephritis. The next section, on the primary contracted kidney as a manifestation of essential hypertension, expresses the author's conception of the kidney changes as only one of the manifestations of a general vascular disease, the others being hypertension and cardiac hypertrophy. There is an interesting discussion of the relationship of the three, with theories as to the pathogenesis of the hypertension A distinction is made between this disease and the ordinary arteriosclerosis on the basis of the blood vessels affected, the arterioles in essential hypertension and the larger vessels in arteriosclerosis. The three types of essential hypertension, with cardiac, nervous and renal symptoms, are described, the latter in detail, with etiologic factors, symptoms and treatment. A few pages are devoted to tuberculosis of the kidney and the ascending infections. The author closes with a section on renal edema, distinguishing between the edema of nephrosis due to tissue changes, and that of nephritis due to changes in the small blood vessels. There are numerous illustrative case histories. An extensive bibliography is given at the end of each section. The author's own theories on the various contraversial subjects are supplemented throughout by the older and the contemporary conflicting views.

Trial of Thomas Neill Cream. Edited by W. Teignmouth Shore. Cloth. Price, $3.50. Pp. 207, with illustrations. Toronto: Canada Law Book Company, Ltd., 1923.

Trial of Ronald True. Edited by Donald Carswell. Cloth. Price, $3.50. Pp. 295, with 5 illustrations. Edinburgh: William Hodge and Company, Limited, 1925.

These books are two of an extensive series known as "The Notable British Trials." Their special interest for the physician lies in the fact that the murderer in the first instance was medically educated, and in the second instance a narcotic addict. The volumes include extensive abstracts of all the evidence, including the expert evidence given in these cases, together with the statements of the court, arguments of the attorneys for both sides, and similar matter. Any one interested in medicolegal procedure will find these books of intense interest.

Studies of the Viruses of Vaccinia and Variola. By M. H. Gordon, C.M.G., C.B.E., D.M., Consulting Bacteriologist to St. Bartholomew's Hospital. Medical Research Council, Special Report Series, No. 98. Paper. Price, 3s. 6d. net. Pp. 135, with illustrations. London: His Majesty's Stationery Office, 1925.

In this laboratory study under the auspices of the Medical Research Council, the nasal mucosa of the rabbit was found highly susceptible to the virus of vaccinia. Immunity was produced by heated as well as by living virus. No difference was detected between the virus of the mild type (alastrim) and of the severe type of smallpox, except that virus from a confluent case of smallpox was decidedly more virulent than that of alastrim when the two were tested on the skin of the same monkey. Positive results with variola virus of both types were obtained in complement fixation and agglutination tests with antivaccinia serum.

Blutkrankheiten. Eine Darstellung für die Praxis. Von Professor Dr. Georg Rosenow, Oberarzt an der Medizinischen Universitäts-Klinik in Königsberg I. Pr. Fachbücher für Aerzte. Band XI. Herausgegeben von der Schriftleitung der Klinischen Wochenschrift. Cloth. Price, 27 goldmarks. Pp. 260, with 43 illustrations. Berlin: Julius Springer, 1925.

Here the physician may find what he needs to know about diseases of the blood. The author begins with a brief review of the composition and morphology of the blood, giving the newer theories of origin of the cells, and the technic of blood examination. The latter should prove helpful, as many of the less frequently used methods are described. A short section on general therapy follows, with the technic of blood transfusions. In the special part, the various diseases of the blood are described: the anemias, leukemias, hemorrhagic diseases, and symptomatic alterations of the blood occurring in the common infections. A simple classification of anemias and leukemias is given. Each disease is fully described, including symptoms, pathology and treatment, as well as the blood changes. Individual cases from the author's own experience, cited briefly, emphasize and clarify many of the important points. The illustrations are excellent. The book should be useful both as a general review of the subject and for reference purposes. It is not too long to read through easily, and there is much material for the space. The style is simple, clear, and easy to understand even with a limited knowledge of German.

The Radiological Examination of the Male Urethra. By G. L. S. Kohnstam, M.R.C.S., L.R.C.P., and E. H. P. Cave, M.B., B.S., M.R.C.S. With a preface by Sir John Thomson-Walker, O.B.E., M.B., C.M. Cloth. Price, $5.50. Pp. 115, with 64 illustrations. New York: William Wood & Co., 1925.

The authors start with a short history of the radiography of the male urethra, giving full credit to their predecessors. The first chapter is devoted to the description of the technic employed. The various contrast mediums are discussed and the authors explain their preference for lipiodol. They lay great stress on the maintenance of a constant stream through the urethra and describe their apparatus employed for this purpose. The radiographic apparatus and the postures of the patient are discussed in detail. A special chapter is devoted to the interpretation of the pictures obtained. After the normal urethrograms have been demonstrated, the various pathologic conditions are taken up in their pictorial appearance. Of high interest are the urethrocystograms taken after prostatectomy. While the authors do not claim that radiography will replace urethroscopy and cystoscopy, they maintain that this method is a valuable and occasionally an indispensable addition to the methods of exploring the male urethra.

KINDERHEILKUNDE Von Professor Dr. Hans Rietschel. Lehmanns medizinische Lehrbücher. Band VIII. Second edition of Atlasses u. Grundrisses der Kinderheilkunde, by Prof. D. R. Hecker and Prof Dr. J. Trumpp. Paper. Price, 22 goldmarks Pp 446, with 213 illustrations. Munich: J. F. Lehmann, 1925.

This has as its foundation Hecker and Trumpp's atlas and textbook on diseases of children, many of the original illustrations and a considerable part of the text having been utilized. It is more complete in its excellent illustrations than any similar work now available. Because of its limited size, the text is necessarily brief but concise. It can be recommended as a well written and conservative book on diseases of infants and children. Much of its value is to be credited to the pictorial matter.

MODERN DIAGNOSIS AND TREATMENT OF SYPHILIS, CHANCROID AND GONORRHOEA. By L. W. Harrison, D S O., M.B , Ch B., Director of the Venereal Diseases Department, St. Thomas's Hospital. Cloth. Price, $3 50. Pp. 167, with 18 illustrations. New York: Paul B. Hoeber, Inc , 1925.

This is a concise, yet complete, treatise on the modern methods of diagnosing and treating venereal diseases. Having written for the practitioner, the author does not indulge in extensive literary quotations and confines himself in his theoretical explanations to the essentials. While the microscopic and serum tests are thoroughly discussed as to principles and the conclusions to be derived from them, the clinical evidence is by no means neglected. The various drugs to be employed and their administration is extolled, with presentation of sound, constructive criticism. The major part of the book is devoted to the discussion of syphilis. The chapters on gonorrhea do not come up quite to the standard of those dealing with syphilis, and American authors may take exception to the emphatic recommendation of the forced Janet irrigation and the strong belief in the efficacy of the vaccine therapy. The work is a valuable guide for the beginner and general practitioner.

L'OXYDE DE CARBONE ET L'INTOXICATION OXYCARBONIQUE Etude chimico biologique. Par le Dr. Maurice Nicloux, Professeur a la Faculté de médecine de Strasbourg. Paper. Price, 22 francs. Pp. 254, with illustrations. Paris: Masson et Cie, 1925.

Nicloux has long been recognized as the leading French authority and investigator in the field covered in this book. In it he has collected, digested and summarized not only his own life work but also the contributions of investigators in other countries. In general, Nicloux's observations and conclusions are in accord with those of Haldane in England, and of Henderson and Haggard in this country. Thus, he finds that carbon monoxide forms a compound with hemoglobin which may be dissociated under the action of oxygen, so that the oxygen carrying power of the blood is restored. He reports with approval the treatment of asphyxia by means of inhalation of oxygen plus carbon dioxide for the sake of the stimulant action of carbon dioxide on respiration. He still regards oxygen alone as of more value than air plus carbon dioxide for the treatment of asphyxia, in which he differs from Haldane, who recommends air plus carbon dioxide as better than oxygen alone. All authorities are now in agreement, however, that oxygen plus carbon dioxide is the most effective treatment, and are thus in accord with American opinion and practice.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits

MANUAL OF HYGIENE AND PUBLIC HEALTH. A Text Book for Medical and Public Health Students By Jahar Lal Das, D P H , Offg Asst Director of Public Health, Bihar & Orissa With an introduction by Lieut Colonel W. C Ross, M B , Ch B , D P H , Director of Public Health, Bihar and Orissa Cloth Price, 10 shillings, 6 pence net. Pp 634, with 105 illustrations London· Butterworth & Co , 1925.

Public health as practiced in India, where, it appears, cow's milk is buffalo milk.

BERGEY'S MANUAL OF DETERMINATIVE BACTERIOLOGY. A Key for the Identification of Organisms of the Class Schizomycetes By David H Bergey, University of Pennsylvania Assisted by a committee of the Society of American Bacteriologists, Francis C. Harrison, Robert S. Breed, Bernard W Hammer, and Frank M Huntoon Second edition Cloth Price, $5 50 Pp 462 Baltimore Williams & Wilkins Company, 1925.

A classification of schizomycetes of interest primarily to bacteriologists.

HANDBUCH DER SPEZIELLEN PATHOLOGISCHEN ANATOMIE UND HISTOLOGIE Herausgegeben von F Henke und O Lubarsch Vierter Band Verdauungsschlauch Erster Teil Rachen und Tonsillen Speiserohre Magen und Darm· Bauchfell Paper. Pp 1127, with illustrations Berlin: Julius Springer, 1926

Part of a large system of pathology, this volume dealing with the gastro-intestinal tract

CHRONIC DISEASE. A Working Hypothesis By E. Bach, M B , B S., D P H , and C E Wheeler, M D , B S , B Sc Cloth Price, $3. Pp 142. New York: Paul B. Hoeber, Inc , 1925

Authors believe intestinal toxemia is responsible for most chronic disease and that their vaccines administered their way will cure such diseases. Quod est demonstrandum

KIDNEY DISEASE From the Physician's Viewpoint. By Rolfe Floyd, M.D., Junior Attending Physician and Pathologist at the Roosevelt Hospital, New York. Cloth. Price, $2.50 Pp. 181 New York James T. Dougherty, 1926.

A brief consideration based largely on a survey of standard literature.

A TEXT-BOOK OF PHARMACEUTICAL CHEMISTRY By Arthur Owen Bentley, Ph C , Director of the Department of Pharmacy, University College, Nottingham, and John Edmund Driver, M Sc , A I C , Lecturer in Chemistry, University College, Nottingham. Cloth. Price, $6. Pp 456 New York: Oxford University Press, 1925.

A textbook for British pharmacists.

THE CITY. By Robert E. Park, Ernest W. Burgess and Roderick D McKenzie; with a bibliography by Louis Wirth Cloth Price, $2 10 Pp 239. Chicago: University of Chicago Press, 1925

Essays by University of Chicago sociologists proving that *man in the mass is an uninspired creature.*

"WELLCOME" PHOTOGRAPHIC EXPOSURE CALCULATOR Handbook and diary, 1926. Cloth. Price, 75 cents Pp. 236. New York: Burroughs Wellcome & Co , 1926.

Handy pocket-guide for amateur and professional photographers.

DIE INNERVATION DER HARNBLASE. Physiologie und Klinik Von Dr Med Helmut Dennig, Assistent der medizinischen Klinik Heidelberg Privatdozent fur innere Medizin. Paper. Pp 98, with 13 illustrations. Berlin: Julius Springer, 1926

German monograph on innervation of the urinary bladder.

DER KOKAINISMUS. Geschichte, Pathologie, medizinische und behordliche Bekämpfung. Von Prof. Dr. Hans W. Maier, I. Oberarzt der psychiatrischen Universitätsklinik, Burghölzli Zürich Paper. Price, 15 marks Pp. 269, with 22 illustrations Leipsic: Georg Thieme, 1926

Complete study of cocain addiction with good bibliography.

MR FORTUNE'S TRIALS. By H C. Bailey. Cloth Price, $2. Pp 248. New York: E P. Dutton & Co , 1926.

Lively detective stories with a physician as the detective hero.

REPORT OF THE MEDICAL RESEARCH COUNCIL FOR THE YEAR 1924-1925 Pp 164. London, 1925.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY, MAY, 1925. Fifty-eighth annual meeting, 1925.

Miscellany

AN EARLY EXPERIMENT SHOWING THE NEED OF CALCIUM IN THE CLOTTING OF BLOOD*

TORALD SOLLMANN, M.D.
AND
W. F. VON OETTINGEN, PH.D., M.D.
Cleveland

The discovery of the rôle of calcium in the coagulation of blood is of surprisingly recent date. Although Hammersten, in 1879, Green, in 1887, and Ringer and Sainsbury, in 1890, had observed that calcium favors clotting, the fact that it is an indispensable element in this process was not suspected till Arthus and Pagès, in 1890, discovered that the addition of oxalates and fluorids prevent the coagulation of blood by precipitating the calcium. Sabbatani, in 1902, recognized that the mere disionization of the calcium, as by citrates, also suffices to prevent clotting.

We have, however, encountered a more ancient chapter in its history, for we find that Archibald Pitcairn, prior to 1717, determined experimentally that the addition of plant juices prevents the clotting of blood; a phenomenon that we shall show to be due mainly to the effect of the organic acids on the calcium ions. Naturally, however, the chemical knowledge of that time did not permit the recognition of this mechanism.

It adds to the appreciation of these early experiments to recollect the atmosphere of intellectual fermentation that characterized the period in which they had their birth. In the first half of the eighteenth century, medicine and physiology were still largely under the shadow of the Galenic and Aristotelian traditions. This is well illustrated by Boerhaave (1668-1738), the outstanding clinical teacher of the time, who remarks (1719) in the Preface of his "Treatise of the Materia Medica":[1] "Gentlemen, Having, by the Authority of my academical Superiors, applied myself to teach Physick, I thought it my principal Business, with Candour and Simplicity, to lay before you what was solid and founded on undoubted Experiments in this Art.—It was with this View I Searched into those remains left us by the Antients, the Fruite of their learned Industry and Experience. In reality, upon comparing them with those Observations which occurred in my own Practice, I perceived they had carefully followed Nature; so that, upon the Whole, greater Certainty cannot be hoped for, nor a more valuable Collection made from any other Quarter.—I had also an Inclination to examine, in some measure, what the Arabs, Successors to the Antients, while Europe was overrun with Barbarism, had added to their Inventions; to which I had access, by Means of Latin Translations.—But was highly concerned, upon finding that this ingenious People, though so amply assisted, had rather injured than improved Medicine by their Subtilties. With equal Care I examined the Opinions of the Moderns, which indeed are Sufficiently showy and Specious; whether we consider the Advantages of their physical Improvements, or the great influence of the liberal arts, where applied to the Advancement of Medicine.—This indeed gave me a Sensible Pleasure; but then the Interest of Physic seemed to suffer very much by a certain licentious Boldness in assuming and framing Hypotheses, by too eager and hasty a Desire of advancing Medicine to its Perfection, and by a contemptuous Neglect, or even Ignorance of its principal Authors."

At the same time, however, the example of Harvey continued to bear fruit, in an increasing tendency to subject the phenomena of life to experimental investigation, and to harmonize them either with the mechanical laws of the universe, which dominated the scientific imagination of the period, since the far-reaching discoveries of Kepler, of Galileo and of Newton, or with the phenomena of chemistry, which had such obvious relations to medicine. The more liberal men tried to unite these points of view, considering philosophy as the head of medicine, and mechanics and chemistry as her two eyes. Such, for instance, was Etienne François Geoffroy (1672-1731), professor of medicine and of chemistry at Paris, who in 1703 wrote a doctoral thesis on the subject "Whether the physician is a mechanico-chemical philosopher," "An Medicus, Philosophus Mechanico-Chymicus?" in which he paints a most interesting picture of the medical science of that time, which unites, as did the time, profound insight with bizarre and superficial analogies.

The more combative writers, however, did not take this broad position. They ranged themselves under the banner of one of the three schools, the philosophers or metaphysicians, the iatromechanicians, and the iatrochemists, and they devoted themselves to enhancing the exclusive importance of their dogma and particularly to combating those of the other groups, without much mincing of phrases. Probably the foremost partisan of the iatrophysicists was our Archibald Pitcairn (1652-1713), the founder of the anatomic theater in Edinburgh, the first in the British Isles. He was a violent opponent of the dominance of medicine by metaphysics, as may be judged from the title of his book, "Address on the Liberation of Medicine from all Philosophising," "Oratio de Medicina ab omni Philosophandi liberata." He also wrote some other books of wide circulation at that time; among these, the "Archibaldi Pitcairnii, Medici celeberrimi, Scoto-Britanni, *Elementa Medicinae* Physico-Mathematica," published in London in 1717. In this book he discusses physiology, pathology and therapeutics in terms of mechanics and physics. Naturally this delivers him to deductive rather than to inductive methods. However opposed he may have been to philosophizing, he generally prefers the short cut of speculation (so long as it is mechanistic) to the slow and laborious path of experimentation. But there is one exception: In the fifth chapter of this book, "de Oeconomia animalia," he describes experiments that he has made on the effect of a considerable series of substances on the coagulation and color of arterial and venous blood. These comprised a number of inorganic substances, especially acids and alkalis and a long list of plant juices. These juices he found in general to diminish the quantity of clot, to render it soft and curdy or to prevent coagulation altogether. The effects as described appeared very striking, and since an inhibiting action of plant juices on blood coagulations has not as far as we know been recorded in modern literature, it seemed interesting to check the validity of this early excursion into the still obscure territory of coagulation.

For convenience, we selected the juice of the peppermint plant. Of this Pitcairn remarks under Experiment 34, "Venous blood, when mixed with the juice of mint, was not coagulated (in one hour) and had the same color as unmixed venous blood; arterial blood also was of the same color but was to a slight extent coagulated into a crumbly clot." (Venosus cum succo menthae profusus non coagulabatur eodem colore cum venoso puro; Arteriosus eodem colore erat sed leviter coactus in grumos.)

With the object, then, of testing the validity of these observations, the leaves and stems of fresh peppermint herb were crushed in a meat-grinder and the juice expressed. From 0.1 to 0.6 c.c. of this juice was placed in small, clean test tubes, and to each of these was added 1 c.c. of fresh rabbit blood, either arterial blood from the carotid artery or venous blood drawn from the heart by puncture. The tubes were kept at room temperature and observed from time to time, the occurrence, the degree and the consistency of the clot being noted by inclining or gently shaking the tubes. Seven series of experiments were made on venous, and six on arterial blood. An abstract of the results is presented in the accompanying table. This shows that the addition of 10 per cent. of the juice very materially delays coagulation and diminishes the amount and the consistency of the clot; that coagulation can be entirely prevented when the juice is added more abundantly, and that, for a given quantity of juice, the interference is greater for venous blood than for arterial.

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* From the Department of Pharmacology of Western Reserve University School of Medicine.

[1] English translation, Hawkins, London, 1739, pp. 1-3.

Effect of Peppermint Juice on the Coagulation of Rabbit's Blood *

Quantity of Juice Added to 1 C c. of Blood	Venous Blood Minutes	Arterial Blood Minutes
0	3 (2 to 4) firm clot	2 (2 to 4) firm clot
0.1	10 (4 to 16) grumous	7 (4 to 8) firm clot
0.2	15 (5 to 20) grumous	8 (5 to 10) two firm, three grumous
0.4	40 (25 to 60) grumous	30 (15 to 45) grumous
0.6	∞ †	∞ †

* The coagulation time is in minutes. The first figure represents the median; the figures in parentheses are the extremes. The same quantity of 0.9 per cent. sodium chlorid solution did not affect the coagulation time materially.

† No sign of clotting in one hour.

All these points are confirmatory of Pitcairn's observations. It is not necessary to inquire into the deductions that he drew from them, for he had not the means for further inquiry. To us, the widespread existence in plant juices of oxalic, citric, tartaric and other organic acids that precipitate or disionize calcium appeared to furnish a probable explanation. This was tested by adding from 0.2 to 0.4 c.c. of a 1 per cent. calcium chlorid solution to the tubes of blood in which coagulation had been prevented by an excess of the peppermint juice. This resulted in prompt clotting.

Conversely, the organic acids isolated from the juice prevented coagulation in the same manner as the juice itself. The isolation was accomplished by precipitating the juice with lead acetate, washing the precipitate with distilled water, suspending in water, decomposing with hydrogen sulphid, and evaporating the solution, and diluting it to the original volume. The phenomena were practically identical with those of the original juice (0 c.c., coagulation in three minutes; 0.1 c.c., seven and one-half minutes; 0.2 c.c., nine minutes, grumous; 0.4 c.c., thirty-three minutes, grumous; 0.6 c.c., no coagulation in an hour). The addition of lime water to this solution of the organic acid destroyed the effect, so that clotting occurred in two minutes.

Further characterization of the organic acids was beyond the scope of our inquiry.

We may add that juice that had been kept on ice for two or three days before it was added to the blood had lost about half of its anticoagulant action.

SUMMARY

Archibald Pitcairn of Edinburgh, in 1717, published reports of experiments showing that plant juices delay and diminish the coagulability of blood, venous blood being somewhat more affected than arterial blood. These observations have been confirmed for peppermint juice. The effect is due, at least in the main, to precipitation and disionization of the calcium by the organic acids of the plant juice. Pitcairn's experiments were therefore probably the first to demonstrate the need of calcium in blood coagulation, although he was not, of course, aware of this explanation.

Medicolegal

Harrison Narcotic Act and Prescriptions

(United States v. Bush (U. S.), 6 Fed. R. (2d) 303)

The United States District Court, Western District of Louisiana, Shreveport Division, in overruling a demurrer to an indictment which charged that the defendant physician did unlawfully sell, etc., 12 grains of morphine sulphate, by issuing a prescription, says, in an opinion written by District Judge Dawkins, that, as he construes the decisions of the Supreme Court of the United States, the effect is substantially this: That while the statute, as a tax measure, is constitutional, nevertheless it must be construed by the courts in such a way as to effectuate collection of the tax, and cannot be used purely as a police measure, either as to physicians or as to others. The holding in substance is that the regulations requiring the registration and the issuance of prescribed forms for the sale, distribution, etc., of the drug, are reasonable provisions calculated to insure the collection of the tax and that none of the drugs shall be distributed without its payment, and that in any case wherein the result of the course pursued by a physician or others may reasonably have the effect of defeating the collection of that tax, then such acts may be penalized by the statute, and those guilty of such offenses may be charged within the language of the law and punished accordingly.

In other words, under *Linder* v. *United States,* 45 Sup. Ct. 446, it would be lawful for a practicing physician, in treating a bona fide patient who had applied to him for that purpose, to prescribe what, in his professional opinion, in good faith was necessary for the alleviation of the pain and suffering incident to addiction, and, unless there appeared some lack of good faith or ulterior purpose calculated to defeat the collection of the tax, the courts would not be justified in condemning and regulating that discretion. On the other hand, it is entirely possible for a physician to violate the statute by prescribing indiscriminately to all persons large doses of the drug, though the same quantity to a known addict who was a bona fide patient might be perfectly legitimate.

To illustrate: If the physician was pursuing a practice of issuing prescriptions indiscriminately to all who came, regardless of whether or not the applicant was an addict or person otherwise suffering with disease for which he thought the drug an appropriate remedy, so that there would be no limit on the quantity of the drug that might go thus unrecorded into the hands of persons generally, even this small quantity —that is, 10 grains or less—would be a violation of the statute; for it might enable the purchaser to resell the drug without paying the tax; hence, each case must depend on its own facts as to whether the physician was or was not in good faith, or acting within the scope of his professional practice in attending a bona fide patient.

The charge in this case was made in the language of the statute, and declared that, while the drug was distributed on a prescription, the same was done, not within the course of professional practice or to a bona fide patient. These were allegations of fact, which, if sustained, would be sufficient to justify a conviction by a jury. However, if on the trial it was shown, in contradiction of the charge itself, that the party to whom the drug was administered was a bona fide patient or person addicted to the habit, and for whom it was necessary to prescribe in order to alleviate pain and suffering, then a case would be presented in which the court would be compelled, in the light of the Linder case, to charge the jury to return a verdict of not guilty.

None of the decisions have indicated what would or would not be an unreasonable amount to be prescribed by a physician. The reason for this is, as indicated above, that each case must stand on its own facts, and that, while in one case a physician might be guilty of violating the law for prescribing a small quantity, in another he would not be guilty in distributing a larger amount, dependent on the circumstances of each particular case, because, if the purchaser was not an addict nor a bona fide patient, and the drug was not necessary for the use of that individual, he might easily go out and sell it to the public, thus engaging in the retail distribution of the drug without having registered or paid the tax which the statute imposes, and thereby defeating the purpose of the statute, which is, primarily, to collect a tax on the drug.

Actions for Alleged Injury from Douche in Hospital

(Mills v. Richardson (Me.), 130 Atl. R. 353)

The Supreme Judicial Court of Maine had here two actions, brought respectively by Mrs. Mills and her husband. The defendant was a physician and surgeon who owned and conducted a hospital. In 1918 another physician took Mrs. Mills to the hospital to be a patient during childbirth. According to the testimony of the defendant, he had nothing to do with Mrs. Mills' case except to supply the hospital and nurses. He did not treat the case, Mrs. Mills was in no sense his patient, and he gave no directions concerning her treatment; the physician who took her to the hospital was her attending physician.

The original declarations charged that the defendant was employed as a physician and surgeon to attend Mrs. Mills in her approaching illness, and that her injuries were the result of his negligence, or the negligence of those who were his servants, in that the defendant, by his servants, who were nurses at the hospital, "improperly, unintelligently and unskilfully, and carelessly and negligently washed and bathed the body of the plaintiff (Mrs. Mills) with an excessive and dangerous amount of bichloride of mercury." At the trial term of the court below the plaintiffs offered amendments to their declarations which omitted to charge that the defendant's negligence as a physician and surgeon, through his servants, was the cause of the injuries complained against, but did charge that the defendant held himself out as conducting and maintaining a competent and reliable hospital, employing nurses and attendants of great skill and ability, and qualified properly and intelligently to care for all diseases and physical infirmities. The amended declarations then proceeded to charge that the defendant was employed "to properly and intelligently care for her said condition until she should deliver forth child and become well." In appropriate language the amended declarations then declared that the defendant, by one of his servants, a nurse employed in the hospital, carelessly and negligently bathed Mrs. Mills with an excessive and dangerous amount of mercuric chloride, from which negligent treatment she received painful and permanent injuries. The defendant objected to these amendments on the ground that they set forth a new and different cause of action. It was quite apparent that the original declarations charged the defendant with liability in his capacity as a physician and surgeon, while the amended declarations charged him with liability as proprietor and manager of a hospital, regardless of the question whether he was acting as a medical man or a layman. But the amendments were allowable, as this court has held that new counts are not to be regarded as for a new cause of action when the plaintiff in all the counts attempts to assert rights and enforce claims growing out of the same transaction, act, agreement or contract, however great may be the difference in the form of liability, as contained in the new counts, from that stated in the original counts. The statement of the liability of a defendant may vary when the wrong done and the loss occurring are the same.

Mrs. Mills made no complaint of any improper treatment before that, as she testified, she was given a douche containing an excessive amount of mercuric chloride, which caused burning of a portion of her private parts. From this burning she said that she had sustained the injury from which serious and lasting consequences followed. But for nearly six years she made no complaint to the defendant, and then, only a few days before the action would be barred by the statute of limitations of Maine, she made known to him that she believed she had a cause of action against him for negligence of his nurse in administering the douche. After examining the entire record with great care, this court is compelled to the conclusion that the jurors erred in their finding for the plaintiffs. Taken at its best, especially in the light of the testimony given by medical experts called by both sides, the conditions of which Mrs. Mills complained were more likely to have arisen from leukorrhea and other physical conditions, than from the douche. The defendant's motion for a new trial sustained.

Ratification in Acceptance of Physician's Report

(Mutual Life Ins. Co. of New York v. Brown (Ga.), 129 S. E. R. 307)

The Court of Appeals of Georgia, division no. 2, in affirming a judgment in favor of plaintiff Brown as administrator, says that his action on a policy of life insurance was defended on the ground of fraud. But where a physician, in behalf of a life insurance company, has examined an applicant for insurance whose application has been procured by a soliciting agent of the company, an acceptance of the physician's report with knowledge of this fact and the issuance to the applicant of a policy of insurance based on the report amount to a ratification of the act of the physician in making the examination for the company, and it follows that the physician in making the examination acted to all intents and purposes as the duly authorized agent of the company. It is not a requisite to such ratification that the insurer, through its officers who accepted the report of the physician and issued the policy, should have actual knowledge of all the information given by the applicant to the physician in the course of the examination. Any such information given by the applicant to the physician making the examination in behalf of the company, although it is not reported to the officers of the company whose duty it is to pass on applications and issue insurance, is nevertheless notice to the company.

Where the answers made to the physician by the applicant, in response to certain questions propounded to him by the physician, are not recorded by the physician, and are not reported by the physician to the officers of the company whose duty it is to pass on applications and issue policies of insurance, and although the applicant may have signed the record of his answers made by the physician, and certified that "each and all of the foregoing statements and answers were read by me, and are fully and correctly recorded by the medical examiner," the company cannot, against a suit to recover on the policy, defend on the ground that the applicant withheld certain material information, and thereby induced the company to issue the policy. This is true notwithstanding a provision in the policy to the following effect:

> This policy and the application herefor, copy of which is indorsed hereon or attached hereto, constitute the entire contract between the parties hereto. All statements made by the insured shall, in the absence of fraud, be deemed representations and not warranties, and no such statement of the insured shall avoid or be used in defense to a claim under this policy, unless contained in the written application herefor and a copy of the application is indorsed on or attached to this policy when issued.

An applicant for life insurance, when giving to the company's medical examiner information in response to questions propounded to him by the examiner, has a right to rely on a discharge by the medical examiner of his duty to report properly the answers to the company. The insured is therefore under no duty afterward to make an examination of the policy to ascertain on what representations the policy purports to have been issued.

Action for Injury from Liquid Petrolatum in Hypodermic

(Hruska v. Parke, Davis & Co. (U. S.), 6 Fed. R. (2d) 536)

The United States Circuit Court of Appeals, Eighth Circuit, says that the question presented for review in this case was, Did the trial court commit error in sustaining a general demurrer to the plaintiff's third amended petition and in entering final judgment against him? and the conclusion is, that it did. The petition alleged, among other things, that the defendant, engaged in the business of a manufacturing chemist, had made and sold a preparation called "Camphor Solution Neutral," which had been advertised and recommended by the defendant for hypodermic injection, but which in this case contained camphor in liquid petrolatum, and that while the plaintiff was ill, in 1919, and under the care of a physician, who knew of the use made of camphor in solution with an animal or vegetable oil for subcutaneous injection, but who did not know that the defendant had prepared its "Camphor Solution Neutral" with liquid petrolatum, the physician injected quantities of that preparation into the plaintiff's body. As a direct result, the liquid petrolatum, not being susceptible of being absorbed by the human body, gathered in large deposits in the plaintiff's system, causing him great pain and suffering and compelling him to undergo many surgical operations and the removal of large amounts of flesh from his arms and body, as a direct result of which he was compelled to pay a large sum in hospital and surgeon's fees, and was permanently damaged and injured in a large sum.

Did the facts well pleaded in the petition state an actionable controversy by the plaintiff with the defendant? The defendant answered, "No," because it said that the cause of action as pleaded was bottomed on negligence, and, as there was no privity of contract between the defendant manufacturer of the solution and the plaintiff, there was no neglect of duty owed by the defendant to the plaintiff, and hence no negligence. But a careful reading and analysis of the petition would disclose the action as pleaded to be not entirely based on negligence, but to possess many, if not all, the elements of an action for fraud, in which the element of privity of contract would not be an essential one. However, it was not necessary in this case to go further than to ascertain whether the facts well pleaded constituted any cause of action whatever, either for negligence or for fraud or both combined, as the only objection to the pleading here involved, as determined by the trial court, was the defect of such issuable facts in the pleading as would warrant a recovery by the plaintiff. However, should the case be regarded solely as one for negligence, still the absence or want of privity of contract was not, in the judgment of this court, fatal to the pleading. It must be borne in mind that this was not the usual case of manufacture and sale discussed by the authorities. On the contrary, the defendant was conducting a highly technical and specialized business, and dealt with the public to be treated with its preparations and drugs, not on an equal footing, but with the understanding that the public would trust to the superior intelligence and general knowledge of the defendant, its agents and employees, in the manufacture and preparation of its products; also, when its compounds, drugs and preparations were placed on the market, that they were safe, harmless and beneficial in use. Health is too dear, life too sweet, and the consequences too great, to admit of either carelessness or mistake in the manufacture or fraud in inducing the sale of the compounds and drugs manufactured.

Testimony of Expert Based on Hearsay and on Book

(Thompson et al. v. Ammons et al. (Ga.), 129 S. E. R. 539)

The Supreme Court of Georgia, in reversing a judgment that was in favor of the propounders of a will made after the testator had suffered a hemiplegia, says that a physician was permitted, over objection, to testify as follows:

> I am familiar with the textbook of Taylor, which is recognized as one of the standard textbooks. The medical term of [partial] paralysis is hemiplegia. I agree with Mr. Taylor as to the case in France where a will was contested and the physician said that the paralysis might affect the brain, but that this in his opinion did not indicate an impairment of the intellectual power. I said, in answer to counsel for caveators, in my opinion in the case he outlined that the patient did not have a rational desire as a general thing, but he might have.

This evidence was objected to, among other reasons, on the ground that it was a conclusion, was based on hearsay and on a book which was not an authority in law, and on the ground that, although the witness was an expert, his testimony did not express a direct opinion. The physician was on cross-examination, and this court is of the opinion that this evidence was of such a character as required the grant of a new trial. An expert may testify to opinions of his own derived from books. But the witness here did not express his own opinion as to the instant case, but merely said, "I agree with Mr. Taylor as to the case in France," etc. It was true that he testified: "I said, in answer to counsel for caveators, in my opinion ir patient did not have a rational desire as a general thing, but he might have." But here the witness did not give his own opinion.

Another physician was permitted, over objection, to testify: "I consider it good authority where Mr. Taylor said," the witness following the word "said" with a quotation. For the reason that the opinion was based on hearsay, as well as for the reason stated above, the admission of this evidence was error. The witness nowhere gave his own opinion, but merely indorsed the opinion of Taylor. If the witness had said, for instance, "My opinion is, from the hypothetical question propounded, that the testator did not have sufficient testamentary capacity to make a will, to dispose of his property as he saw fit, and I base that opinion on the textbook of Taylor," etc., then such testimony would have been admissible.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19-23. Dr. Olin West, 535 N. Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Mobile, April 27-30. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Assistant Secretary.
American Association for the Study of Allergy, Dallas, April 20. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.
American Association of Pathologists and Bacteriologists, Albany, New York, April 2-3. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.
American Gastro-Enterological Association, Atlantic City, May 3-4. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.
American Orthopedic Association, Atlanta, April 26-28. Dr. De Forest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Proctologic Society, Indianapolis, April 16-17. Dr. William A. Rolfe, 331 Beacon Street, Boston, Secretary.
American Society of Clinical Investigation, Atlantic City, May 3. Dr. J. H. Austin, University of Pennsylvania, Philadelphia, Secretary.
American Society of Clinical Pathologists, Dallas, April 15-17. Dr. Ward T. Burdick, Metropolitan Building, Denver, Colo., Secretary.
Arizona Medical Association, Globe, April 25-27. Dr. D. F. Harbridge, 407 Goodrich Building, Phoenix, Secretary.
Association of American Physicians, Atlantic City, May 4-5. Dr. F. W. Peabody, Boston City Hospital, Boston, Secretary.
California Medical Association, Oakland, April 26-May 1. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.
Florida Medical Association, Gainesville, May 3-5. Dr. Shaler Richardson, 111 W. Adams Street, Jacksonville, Secretary.
Hawaii Territorial Medical Association, Honolulu, April 25-28. Dr. F. J. Pinkerton, 46 Young Building, Honolulu, Secretary.
Kansas Medical Society, Kansas City, May 4-6. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.
Louisiana State Medical Society, Monroe, April 15-17. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 27-29. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore, Secretary.
Medical Women's National Association, Dallas, April 18-19. Dr. Lena K. Sadler, 533 Diversey Parkway, Chicago, Secretary.
New York, Medical Society of the State of, New York City, March 29-April 1. Dr. D. S. Dougherty, 17 W. 43d St., New York City, Sec'y.
Oregon State Medical Society, Portland, April 1-2. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.
South Carolina Medical Association, Sumter, April 6-8. Dr. E. A. Hines, Seneca, Secretary.

INSTITUTE OF MEDICINE OF CHICAGO

Meeting held, Feb. 26, 1926

Studies in Water Metabolism

Dr. Edmund Andrews, Chicago: By means of intravenous injections of equivalent amounts of glucose with the Woodyatt pump, it has been possible to demonstrate that the amount of water that it was possible to cause a dog to excrete by this means was directly proportional to the carbon dioxide combining power of the plasma (Van Slyke). A loss of as much as 74 cubic centimeters per kilogram of body weight can be brought about in this way. Below the level of 45 in the carbon dioxide it is not possible to produce any dehydration by this means. One is therefore justified in assuming that there exist in the body a fixed or firmly combined water which cannot be wrung from the tissues, and a "free" or loosely combined water. As the tissues become more acid, the hydrophilic action of the colloids becomes more pronounced and the "free" water is fixed until at the variable clinical action of alkalis as diuretics can therefore be explained on the basis that excretion is not brought about unless the carbon dioxide is raised above the critical level of 45 Experimental evidence of this also is offered The converse, retention of water by acidulation, is governed by the same law In both cases there is a buffer action by the 'free' water The production of fevers by dehydration has been so irregular that many observers deny the existence of dehydration fevers, in spite of the fact that the clinical pediatric literature is almost unanimous on the subject In our experiments the height of the fever seemed to have no relation to the degree of dehydration or any other factors in the experiment The deciding factor seemed to be whether the dog was so placed on the table that his mouth lay open or closed during the latter part of the experiment when he was comatose If the dog's mouth was held open, it was impossible to produce fevers of more than a few degrees If, however, it was tied shut, the rise was more rapid and a further terminal rise to 115 or 120 occurred

Studies in Decerebration: III. The Labyrinth

Drs Loyal E Davis and Lewis J Pollock, Chicago We propose to show that the standing reflex is but one pattern of increased tone which is represented in the brain stem, and that this particular pattern is determined largely by the position of the head in extension, which, in turn, is dependent on a labyrinthine reflex acting on the extensors of the head When the labyrinths are destroyed, increased tone in lasting patterns of flexion as well as extension may be obtained Ten animals were decerebrated by the anemic method, and their labyrinths destroyed intra-orally through the bullae At times the decerebration followed and at times it preceded the labyrinthine extirpation The results were constant in all the animals On being suspended, this animal assumes a good decerebrate rigidity in the fore legs and hind legs Shortly after the head begins to droop, and the rigidity lessens in the fore legs When, now, the head is passively extended and suddenly released, it drops into a position of flexion, and the fore legs are convulsively flexed in all joints and adducted At the same time, the hind legs are more rigidly extended backward When the head is passively extended, the fore legs again assume an attitude of extension, and the tone in the hind legs is diminished Not only does extension occur when the head is passively extended, but when a continuous gentle downward pressure is exerted on the head it reflexly extends, and, as a consequence, the fore legs assume an attitude of strong extension This reflex undoubtedly occurs through the proprioceptive fibers from the muscles of the neck It would appear that the labyrinths exert a strong influence on the extensor reflex of the neck, which produces a fixed position of the head and a consequent marked extensor rigidity in the extremities which is difficult to modify by phasic reflexes We conclude, further, that the labyrinths produce a reflex extension of the head, which in turn produces an extension of the fore legs, when the labyrinths are destroyed, the head readily and suddenly falls as the result of gravity, and a flexor attitude is produced in the fore legs The rigidity in flexion is as great as is the rigidity in extension in the ordinary decerebrate animal The extensor rigidity in the hind legs is diminished by extension of the head and increased by flexion, but the hind legs are always extended, therefore, the reflex is determined chiefly through the proprioceptive impulses from the body

Blood Sugar Control in Diabetes Associated with Pulmonary Tuberculosis

Dr Walter H Nadler, Chicago In the treatment of diabetes and pulmonary tuberculosis, it is recognized that management of the diabetes is the essential measure The maintenance of normal blood sugar levels made possible by insulin, seems the ideal method of diabetic control Six adult patients, observed over periods varying from four months to three years, have been treated with this object in view Of the six cases studied, the tuberculosis has become quiescent in three In three cases observed for four, seven and eight months, respectively, the tuberculosis remains active, these patients, however, showed marked improvement, and a favorable prognosis seems justifiable The maintenance of the blood sugar at or near a normal level seems advantageous in cases of severe diabetes and advanced pulmonary tuberculosis As the tuberculosis becomes quiescent, less insulin is usually required Hyperglycemia seems to predispose to extension of the tuberculosis, while normal glycemia seems to favor healing

Dermatitis Venenata

Dr Edward A Oliver, Chicago Dermatitis venenata is an inflammation of the skin produced by contact with some irritating agent The case I describe illustrates a somewhat unusual etiology Going carefully into the history, it was seen that the patient's periods of improvement were always at the end of the week, while his worst periods were always on Monday and Tuesday Finally, after eliminating everything that we could possibly think of, in desperation we turned to the Sunday newspapers True, he read the daily papers, but the Sunday ones carried a colored supplement and a rotogravure section, and it was thought that possibly the ink used in the rotogravure section might be the offending agent He was advised to discontinue reading and handling the colored sections of the paper. From that time on, he made an uneventful recovery

Radium Necrosis of Bone

Dr Dallas B Phemister, Chicago Studies of the effects of the local application of radium to bone are of interest because of their theoretical bearing on the pathogenesis of certain bone diseases and because of their clinical bearing on the radium treatment of bone tumors The behavior of bone in the presence of necrosis produced by radium is different from that in the presence of necrosis produced by any other condition Bone killed by radium in the treatment *of sarcoma behaves in the same way as was found in experiments* In a number of instances, radium needles have been introduced into bone sarcomas and considerable areas of bone have been killed, but in no instance has there been subsequent roentgen-ray evidence *of sequestration* of the dead bone In one case which responded favorably there was reossification in the region of the tumor and, judging from subsequent roentgenograms, replacement of the bone killed by radium by new bone

Experimental High Intestinal Obstruction: Relief By Irrigation and Control of Alkalosis

Drs Milton M Portis and Bernard Portis, Chicago· Acute duodenal obstruction is now assuming great importance because of the performance of more radical gastric surgery and the newer conception of alkalosis and gastric tetany We have attempted in this experimental study to produce an artificial duodenal obstruction and to remove the toxic substance by irrigation and to determine the relative importance of the involved factors The operative and irrigation procedures were performed on eighteen dogs The details are included in the published article Experimental duodenal obstruction is associated with alkalosis, tetany and death Continuous adequate and thorough drainage of the obstructed intestinal loops can be best carried out by the use of two tubes *Such irrigation of the obstructed duodenojejunal loop* has a favorable action, and, when accompanied by control of alkalosis, relieves the symptoms and prevents death

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Conservation of Energy.—If situations which cause worry and annoyance can be controlled, a vast amount of valuable energy is conserved by finding the way to regulate them If it is beyond the power to change these conditions, then the health and happiness way is to forget or to ignore them so far as possible The ability to accustom *oneself* to irremediable conditions and to make the best of them is truly a desirable intellectual attribute Making the best of them does not mean a lazy acquiescence in a situation that can be controlled or changed It does mean the game acceptance of the knowledge that at times there will be annoyances that are incident to the day So why worry about them?—Wood, T. D, and Dansdill, T By-Ways to Health, 1925, p 70

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days No foreign journals are available prior to 1920, nor domestic prior to 1923 Periodicals published by the American Medical Association are not available for lending but may be supplied on order Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested)

Titles marked with an asterisk (*) are abstracted below

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Blood Sugar After Asphyxia in "Decapitate Cats Relation to Suprarenals J M D Olmsted, Toronto Can —p 487
Studies on Nerve Impulse I Quantitative Method of Electrical Recording H Davis and D Brunswick, Boston —p 497

Kidney Function —The fact that the cells of the proximal tubules of the kidneys stain deeply with certain dyes during their maximum elimination in the urine and disappear from them simultaneously with their disappearance from the urine, Edwards says, furnishes a visible basis for secretion

Action of Light on Blood —As a result of direct irradiation of blood in vivo with a carbon arc for a period of one and one half hours, Koch and Reed found that the blood was so altered that a direct application of the colorimetric method for uric acid gave an average increased concentration of 38 per cent, if this increased reaction is expressed in terms of uric acid In one third of twenty-one experiments no increase occurred The question as to whether this increase was due to the formation of dioxyphenylalanin, a possible forerunner of melanin is raised At any rate the total reaction was not due to uric acid alone

Effect of Parathyroid Extract on Blood Calcium.— Berman's experiments showed that an extract of the parathyroid glands prepared by extraction with acidified alcohol at room temperature, when injected into normal animals will definitely increase the calcium content of the blood and at the same time decrease the electrical excitability of the nerves When injected into parathyroidectomized animals in tetany, it will relieve the symptoms, raise the blood calcium to about the normal level, and at the same time will raise the threshold of the electrical excitability of the nerves This action seems to be dependent on the mobilization of calcium into the blood from the various calcium depots of the body, as the decrease of the electrical excitability of the nerves is correlated with the increase of the blood calcium both of the normal and parathyroidectomized animals The demonstration of the effect of these parathyroid extracts on the electrical excitability of the nerves, as well as on the calcium content of the blood is additional evidence that it contains the internal secretions of the parathyroid glands

Effect of Bleeding on Serum Calcium —Swingle and Wenner report that withdrawal of considerable quantities of blood from dogs suffering from tetania parathyreopriva promptly relieves the symptoms temporarily, and induces a marked rise in the level of the serum calcium The abatement of symptoms coincides with the rise in serum calcium Within ten or twelve hours after bleeding the calcium content of the blood again decreases and tetany becomes manifest The remission of tetany symptoms which follows bleeding cannot be considered good evidence that such procedure diminishes the concentration of a toxic substance in the circulating blood

Strontium Lactate Specific Against Tetany —Swingle and Wenner were able to prevent tetany in dogs from developing to give relief or even effect a cure by continuous oral administration of strontium lactate The strontium acts in two ways (1) by decreasing the permeability of the intestine to calcium excretion so that the normal level of this salt is maintained in the blood and tissues, and (2) by a sedative effect on the nervous system whereby the excitability of the motor nerves is greatly diminished Thyroparathyroidectomized dogs kept free from tetany by strontium for about forty days readjust themselves to the loss of their parathyroids and permanently recover Several suggestions as to the mechanism involved in such readjustment are offered

American Review of Tuberculosis, Baltimore

8: 1 96 (Jan) 1926

*Tuberculosis of Pleura W S Miller, Madison, Wis —p 1
*Tension Theory of Pleuritic Pain H A Bray, New York —p 14
*New Palliative Method for Relief of Severe Pleuritic Pain in Pulmonary Tuberculosis G I Swetlow, New York —p 21
*Treatment of Tuberculous Peritonitis by Oxygen Inflations E W Hayes Monrovia, Calif —p 27
*Pulmonary Hilum Tuberculosis in Adult H Freed and J B Webb, San Antonio Texas —p 37
"Occult' or 'Concealed" Tuberculosis E K Geer, St Paul —p 47
*Chronic Miliary Tuberculosis of Lungs with Resolution I S Kahn —p 52
Comparison of Breath Holding Tests with Vital Capacity in Health and Disease F W Wittich and J A Polczak, Minneapolis —p 54
*Experimental Intratracheal Infection with Tubercle Bacillus T D Beckwith and R J Millzner, Berkeley, Calif —p 62
Oxidation and Reduction at Site of Tuberculous Lesion W C White, M I Smith and M X Sullivan, Washington, D C —p 77
Action of Unsaturated Fatty Acids on Tubercle Bacilli C H Boissevain, Colorado Springs —p 84
Method for Obtaining Single Colonies of Tubercle Bacilli C H Boissevain, Colorado Springs —p 90
Attempt to Establish Tissue Specific Strains of Tubercle Bacilli L M De Witt and H G Wells, Chicago —p 92
Comparison of Death Rates from Tuberculosis in Twenty Three Large Cities of United States H W Green, Cleveland —p 94

Tuberculosis of Pleura.—Anatomic study of the pleura from cases of tuberculosis of this membrane leads Miller to advance this thesis: The collagenous fibers and the layer of elastic fibers are definitely resistant to the extension of the tuberculous process. The blood and lymph vessels within the pleura provide a means by which the products of the tuberculous inflammation are quickly removed. When, however, the entire thickness of the pleura becomes involved, adhesions are soon formed between the pleura pulmonalis and the pleura costalis, and additional support is provided by the thoracic wall.

Tension Theory of Pleuritic Pain.—Bray's study indicates that neither the friction theory nor the muscular theory satisfactorily explains the characteristic inspiratory pain of pleurisy. The cardinal feature of the pain, he thinks, is due to tension of the inflamed parietal pleura.

Alcohol Injection of Root Ganglions to Control Pleuritic Pain.—The method employed by Swetlow to control severe thoracic pain caused by pleuritic involvement in cases of pulmonary tuberculosis consists of the injection of alcohol into or very near the dorsal root ganglions concerned for the purpose of producing an axonal degeneration.

Oxygen Inflations in Tuberculous Peritonitis.—Hayes has treated ten cases of tuberculous peritonitis and six cases of intestinal tuberculosis by oxygen inflation of the abdomen with good results. As many injections are made as are necessary to achieve success.

Pulmonary Hilum Tuberculosis in Adult.—Freed and Webb are of the opinion that in any case with such toxic symptoms as loss of weight, purulent expectoration, persistent elevation of temperature above 99 F., acceleration of the "resting" pulse to over 90 per minute, the subjective symptoms pointing to chest involvement in the absence of a definitely established cause for the toxemia, tuberculous disease of the tracheobronchial lymph nodes should be considered as a possibility. In the event that tubercle bacilli are found at one but not at subsequent examinations, the patient should be considered actively tuberculous, if there is a definite toxemia, even in the absence of physical and roentgenographic findings of chest disease. Nine cases are reported.

Chronic Miliary Tuberculosis with Resolution.—All the symptoms in Kahn's case were of a high degree of severity. There was a diffuse universal bilateral confluent miliary tuberculosis with pericarditis. A practically hopeless prognosis was given. However, an extreme hospital rest cure regimen was instituted, with sunlight exposures to the chest and abdomen. Sodium cacodylate, 3 grains (0.19 Gm.), was given hypodermically twice a week. The patient improved remarkably rapidly. After an eight months' hospital residence, as a strict bed case, he left for his home. Seven months later symptoms of tuberculous disease activity continued absent.

Experimental Intratracheal Infection with Tubercle Bacilli.—A series of guinea-pigs and rabbits received *B. tuberculosis* by intratracheal injection. In certain instances, the injected micro-organisms were suspended in India ink. Subsequently, some of these experimental animals developed pulmonary tuberculosis. Microscopic examinations revealed acid-fast bacilli and ink particles in the same tissue field. An available lymphatic pathway to the lung from the site of injection has already been demonstrated. Beckwith and Millzner believe, therefore, that resultant pulmonary infection in the animal following the insertion of *B. tuberculosis* within the wall of the trachea is developed from micro-organisms traversing the tracheal lymphatic pathway.

Archives of Otolaryngology, Chicago

3: 1-98 (Jan.) 1926

*Value of Roentgen Ray in Rhinologic Diagnosis: Oblique Method of Rhese. W. P. Wherry, Omaha.—p. 1.
*Laryngofissure for Cancer of Larynx: Fifteen Cases. G. Tucker, Philadelphia.—p. 20.
*Cancer of Larynx. St. Clair Thomson, London, England.—p. 37.
*Modified Radical Mastoid Operation in Treatment of Subacute Mastoiditis. T. H. Odeneal, Beverly, Mass.—p. 43.
Meningitis Sympathica: Nine Cases. I. Strauss, New York.—p. 46.
Case of Thrombosis of Sigmoid Sinus Following Skull Fractures. O. J Dixon, Kansas City, Mo.—p. 57.
Functional Examination of Hearing. R. Sonnenschein, Chicago.—p. 60.

Roentgenoscopy of Nasal Accessory Sinuses.—In Wherry's hands the oblique method of Rhese affords the best comparative study of the ethmoid and sphenoid sinuses. Most of the other positions present the individual sinus isolated from its adjacent structures or overlapped by other parts, and do not convey the comparative information so necessary for proper orientation.

Laryngofissure for Cancer of Larynx.—Of the fifteen cases reported by Tucker one patient is alive and well after three years; three after two years and five after one year. One patient had a recurrence after one year and a laryngectomy was done. Three patients are alive and well after less than one year. One patient died from late metastasis and one died one week after operation from diabetes and bronchopneumonia. Tucker says that if the patients are properly selected, at least 80 per cent will not require laryngectomy after laryngofissure.

Cancer of Larynx.—When the cancer is intrinsic (that is, on a vocal cord), Thomson says early diagnosis should lead to laryngofissure, an operation which should be free from danger to life and should be followed by an adequate voice and lasting cure. If patients come late, if diagnosis is delayed, or if local recurrence takes place, a partial laryngectomy may be successful. Extrinsic cancer is seldom operable. When it is, the cancer can be removed through a lateral pharyngotomy. A complete laryngectomy is rarely helpful in extrinsic disease. It is an operation occasionally indicated for neglected and extensive intrinsic cancer.

Modified Radical Mastoid Operation.—The operation performed by Odeneal is simply an exenteration of the mastoid and the taking down of the posterior meatal wall as far as the tympanic ring; the ossicles are not exposed. A flap simply of two horizontal incisions is made in the membranous meatal wall; the flap is shaved down thin, folded back on itself and stitched to the anterior lip of the mastoid incision. It is not necessary to extend the incision into the cartilaginous portion of the ear. After the flap is sutured in place the mastoid is packed with plain gauze and the end brought out through the meatus, when the mastoid incision is closed entirely. If the ear has been discharging profusely before operation, a small wick should be left for a few days in the inferior angle of the mastoid wound to facilitate drainage, after which it can be removed. The first packing is allowed to remain three or four days, when no further packing is required. Odeneal fills the cavity through the meatus every second day with 1:500 acriflavine solution, the canal having been previously cleansed.

Archives of Surgery, Chicago

12: 1-168 (Jan.) 1926. I.

*Aneurysms in Johns Hopkins Hospital. M. R. Reid, Cincinnati.—p. 1.
*Acute Bone Atrophy. T. P. Noble and E. D. W. Hauser, Rochester, Minn.—p. 75.
*Recurrent Laryngeal Nerves in Dogs. A. Blalock, Nashville, Tenn., and S. J. Crowe, Baltimore.—p. 95.
Calcaneal Spurs: Two Cases. P. Lewin, Chicago.—p. 117.
*Transfusing of Unmodified Blood. II. Technic. O. A. Brines, Detroit.—p. 124.
Id. III. Clinical Aspect. A. W. Blain and O. A. Brines, Detroit.—p. 140.
Twenty-Eighth Report of Progress in Orthopedic Surgery. R. B. Osgood, N. Allison, P. D. Wilson, H. Bucholz, R. Soutter, H. Low, M. S. Danforth, L. T. Brown, and M. N. Smith-Petersen, Boston.—p. 151.

Aneurysms.—Reid reviews briefly 142 cases of aneurysms of various arteries and veins with special reference to the treatment employed and the result.

Acute Bone Atrophy.—Proof of the existence of a type of acute bone atrophy which appears much more rapidly and is more extensive than that following disuse is given by Noble and Hauser. They believe that acute bone atrophy is best explained on the basis of reflex trophoneurotic action. Early and vigorous treatment will prevent permanent disabilities and will shorten the course of the disease.

Experimental Nerve Anastomosis.—In observations and histologic studies made by Blalock and Crowe on seventeen experimental animals in which various nerves were anastomosed to severed recurrent laryngeal nerves, the nerves that were employed were: (1) the descending hypoglossal (end to end); (2) the main trunk of the vagus (end to side); (3) the main trunk of the phrenic (end to side); (4) the root of the phrenic which comes from the third cervical nerve (end to end), and (5) the opposite recurrent laryngeal nerve (end to side). There was definite evidence of regeneration following the use of each of the nerves.

Transfusion of Unmodified Blood.—The apparatus used by Brines is devoid of intricate mechanism; the minimum of assistance is required to operate it; it can be operated by one person if necessary, and is adapted to unfavorable working conditions and to operation in small quarters, such as are frequently encountered in the patient's home or in hospital rooms. The author has used this method in 1,000 cases without any untoward results.

12: 171-454 (Jan.) 1926. II.

What May We Expect Today from Thoracic Surgery? N. W. Green, New York.—p. 171.
*Aspiration: Experimental Study. W. S. Lemon, Rochester, Minn.—p. 187.
*Surgical Aspect of Mitral Stenosis. E. C. Cutler, Cleveland.—p. 212.
Radium Therapy for Carcinoma of Esophagus. W. S. Stone, New York.—p. 230.
*Surgical Treatment of Carcinoma of Esophagus. F. Torek, New York.—p. 232.
*Why Does Not Thoracic Surgeon Cure Cancer of Esophagus? C. Jackson, Philadelphia.—p. 236.
Esophageal Implantation into Stomach After Intrathoracic Resection of Esophagus for Carcinoma. H. Fischer, New York.—p. 241.
Radium in Carcinoma of Esophagus: Method of Application. S. Yankauer, New York.—p. 247.
Significance of Vital Capacity in Intrathoracic Therapy. J. L. Yates, Milwaukee.—p. 257.
Vital Capacity Following Lobectomy. H. Lilienthal, New York.—p. 286.
Medicosurgical Borderland in Thoracic Tuberculosis. D. A. Stewart, Ninette, Manit.—p. 288.
*Medical Care of Tuberculous Thoracoplastic Cases. S. A. Knopf, New York.—p. 298.
Patients with Pulmonary Tuberculosis in General Hospitals. W. Meyer, New York.—p. 311.
Placing in General Surgical Wards of Patients on Whom Thoracoplasty Has Been Performed. S. A. Knopf, New York.—p. 320.
Postoperative Gangrene of Lung with Encysted Empyema: Operation; Recovery. W. Meyer, New York.—p. 329.
Lung Abscess Complicated and Hidden by Empyema: Ten Cases. C. Eggers, New York.—p. 338.
Actinomycosis of Lungs and Chest: Case. F. Torek, New York.—p. 385.
Congenital Cystic Lungs: Case. R. T. Miller, Jr., Baltimore.—p. 392.
*Primary Carcinoma of Lung: Two Cases. H. Brunn, San Francisco.—p. 406.
Bilateral and Unilateral Nontuberculous Spontaneous Pneumothorax: Case. L. T. Le Wald, New York.—p. 440.
*Thirteen Foreign Bodies Removed from Esophagus at One Sitting. S. Yankauer, New York.—p. 447.

Pathogenesis of Postoperative Pulmonary Infection.—The results of Lemon's experiments seem to indicate that postoperative pulmonary infection may be explained, in part at least, as a result of infection carried to the lung in oral secretion which has been aspirated by the force of the air current created when the chest expands in patients whose protective mechanism has been disturbed.

Surgical Treatment of Mitral Stenosis.—Cutler describes the technic employed in the surgical treatment of five cases of mitral stenosis manifesting severe symptoms. Only one patient is living and apparently improved today, two years after operation. Signs of mitral stenosis are still present, but the patient has gained 10 pounds (4.5 Kg.); hemoptysis has not recurred, and her general condition is undoubtedly improved. The other patients died, ten hours, twenty hours seven days and three days, respectively, after operation.

Surgical Treatment of Esophagus Cancer.—Torek urges early operation in these cases, before the tumor has involved tissues outside of the esophagus and while the patient's general health is fairly good.

Diagnosis of Esophagus Cancer.—Jackson asserts that there are only two safe, certain and early methods of diagnosis of cancer of the esophagus—roentgenoscopy and esophagoscopy. He thinks that there is good reason for the belief that when every patient with supposed "globus hystericus" or with the slightest subjective abnormality in swallowing is promptly examined with the esophagoscope, the thoracic surgeon will show a good percentage of cures.

Value of Thoracic Surgery in Pulmonary Tuberculosis.—Knopf believes that with the help of thoracic surgery the time may come when one will no longer have to speak of incurable cases of tuberculosis.

Primary Carcinoma of Lung.—Brunn reports two cases of primary cancer of the lung in which operations were performed within two months of each other. Neither of them, however, was diagnosed sufficiently early to make probable a permanent cure.

Many Foreign Bodies in Esophagus.—Yankauer relates the case of a woman suffering from melancholia associated with menopause who swallowed thirteen foreign bodies with the intention of committing suicide. A roentgenogram showed foreign bodies in the esophagus and an equally large collection in the stomach and in the intestines. All these foreign bodies, with the exception of one, were located above the point where the arch of the aorta crosses the esophagus. The foreign bodies were a screw, hairpins, nail, needle, safety pin and several pieces of glass and crockery. They were all removed successfully.

Boston Medical and Surgical Journal

194: 91-138 (Jan. 21) 1926

Diagnosis of Clinical Hilum Tuberculosis. J. B. Hawes, Boston.—p. 91.
*Infantile Otitis Media. D. W. Drury, Boston.—p. 96.
Intercostal Drainage in Treatment of Empyema. D. C. Patterson, Bridgeport, Conn.—p. 100.
Antemortem and Postmortem Records as Used in Weekly Clinicopathologic Exercises. R. C. Cabot, Boston, and H. Cabot, Ann Arbor, Mich.—p. 114.

194: 139-190 (Jan. 28) 1926

Industrial Surgical Problem. W. O. Sherman, Pittsburgh.—p. 139.
Class Method in Home Treatment of Pulmonary Tuberculosis. J. H. Pratt, Boston.—p. 146.
"Dermatologic Firing Line." W. J. Macdonald, Malden.—p. 152.
Angina Pectoris: Mechanism and Treatment. W. D. Reid, Boston.—p. 155.
Appraisal of City Health Work and What It Shows in Boston. W. F. Walker, Boston.—p. 158.

Infantile Otitis Media.—Drury reports five cases of otitis media occurring in infants aged 2 weeks, 7, 11, 6 and 6 months, respectively. The importance of early incision of the drum is emphasized.

Endocrinology, Los Angeles

9: 441-532 (Nov.-Dec.) 1925

Thermogenesis as Fundamental Function of Suprarenal Medulla and Cortex. C. E. de M. Sajous, Philadelphia.—p. 441.
Influence of Metabolic, Endocrine and Nervous Factors on Action of Insulin. B. A. Houssay, Buenos Aires.—p. 456.
*Case of Precocious and Hereditary Diabetes Insipidus. G. Maranon and E. Bonilla, Madrid, Spain.—p. 467.
*Influence of Desiccated Spleen and Bone Marrow Feedings on the Erythrocyte and Hemoglobin Contents of Blood. S. Shapiro and F. H. Frankel, New York.—p. 472.
Function of Prostate Deduced from Gland Transplantation in Physicians. H. L. Hunt, Edinburgh.—p. 479.
*Pancreas and Tuberculosis. L. G. Robinovitch, G. W. Stiles and C. F. Payne, Golden, Colo.—p. 490.
Number of Islets of Langerhans in Pancreas of Albino Rat. M. D. Overholser, Columbia, Mo.—p. 493.
Maternal Behavior of Rats Living in Parabiosis. C. P. Stone, Stanford, Calif.—p. 505.
Experiments on Liver Transplantation. T. Koppanyi and H. C. Chang, Chicago.—p. 513.

Precocious and Hereditary Diabetes Insipidus.—In the case cited by Maranon and Bonilla the polyuria started at 12 months of age. The patient is now 20 months old. Both parents are healthy, but the mother had experienced on several occasions before and after marriage periods of insistent thirst and considerable polyuria, but nothing abnormal was found on analyzing the urine. The previous history of child and mother was negative. The child presents a normal aspect. The upper jaw has a complete set of teeth, but the lower jaw has only the two teeth which it had at birth. Intelligence is normal for its age. The urine output reaches 8 liters in twenty-four hours, the child drinking about the same amount of water. The analysis of the urine gives the following data: specific gravity, 1.004; chlorides, 1.1; urea, 1.95; absence of abnormal substances. The child presented no nervous symptoms nor the slightest sign of hypophyseal or parahypophyseal lesion. Roentgenoscopy of the sella turcica presented a completely normal outline.

Effect of Spleen and Bone Marrow Feedings on Blood.—An extract of desiccated spleen and bone marrow was alternately fed and withheld in a series of four cases over a period of six months. During the periods of feeding, there occurred increases in the erythrocyte and hemoglobin contents of the blood, which returned to about the prefeeding level when the preparation was withheld.

Lack of Lipase Factor in Etiology of Tuberculosis.—Robinovitch, Stiles and Payne suggest the possibility that persons contracting tuberculosis are subject to a deficiency of lipase in their systems. They were able to demonstrate that the lipase or steapsin contained in the pancreas or in any part of the body is a defensive agent, in animals and in man, against the tubercle bacillus.

Journal of Cancer Research, Lancaster, Pa.

9: 425 518 (Dec) 1925

Types of Cysticercus Tumors. F. D Bullock and M. R. Curtis, New York —p 425
Transplantability of Larva of Tenia Crassicollis· Probable Rôle of Liver in Cysticercus Disease of Rats F. D. Bullock and M. R. Curtis, New York —p 444
*Varying Degrees of Malignancy in Cancer of Breast. R. B Greenough, Boston —p. 453
II and III. Cellular Reaction and Problem of Cancer. B. Sokoloff. —p 464

Varying Degrees of Malignancy in Breast Cancer.—Without reference to the history or result, Greenough studied the microscopic specimens from seventy-three cases of breast cancer with the idea of classifying them according to malignancy. The result shows that the degree of malignancy of a given case of cancer of the breast can be determined with reasonable accuracy by study of the histology of the original tumor, and three classes, low, medium and high malignancy, can be distinguished In estimating the degree of malignancy of a given tumor, the following factors are of importance: (*a*) Degree of differentiation, as shown by arrangement of cells around an open gland lumen (adenocarcinoma); (*b*) degree of secretory activity of cell protoplasm as shown by vacuoles and droplets of mucoid material; (*c*) uniformity of size of cells and of nuclei, as opposed to variations in size; (*d*) absence or presence of hyperchromatic changes in nucleus, and few or many mitotic figures, and whether irregular or not; (*e*) high malignancy, shown by cells and nuclei of irregular shape and size without secretory function, and arranged in solid columns, large and small, together with numerous and irregular mitoses and hyperchromatism. The extreme degree of these features is pleomorphism. A tumor of adenomatous arrangement (adenocarcinoma) with uniform size cells and nuclei, few mitoses, and absence of hyperchromatism indicates low malignancy. A high degree of round cell infiltration appears to indicate a considerable degree of cell degeneration, and is not to be relied on as an indication of the resistance of the individual to the cancer growth Hyalinization of the stroma does not indicate active resistance to the tumor growth but is rather a factor of the age or previous condition of the mammary tissue in which the tumor lies.

Journal of General Physiology, Baltimore

9: 285 386 (Jan 20) 1926

Time Relations of Growth. II. Equivalence of Age in Mammals Estimated on Basis of Their Growth Constants S. Brody, C. D. Sparrow and H H. Kibler, Columbia, Mo —p. 285.
Effect of Radioactive Radiations and Roentgen Rays on Enzymes V. Influence of Variation of Thickness of Absorbing Layer of Solutions of Pepsin on Rate of Radiochemical Inactivation of Enzyme. R. G. Hussey and W. R. Thompson, New York.—p 309.
Id VI. Influence of Variation of Temperature on Rate of Radiochemical Inactivation of Solutions of Pepsin by Beta Radiation. R. G. Hussey and W. R Thompson, New York —p. 315
Carbon Dioxide Production and Duration of Life of Drosophila Cultures. J H Northrop, New York —p 319.
Effect of Advance in Lactation and Gestation on Mammary Activity. W L Gaines and F. A. Davidson, Urbana, Ill —p 325
Dissociation Constants of Racemic Proline and Certain Related Compounds C M. McCay and C. L A. Schmidt, Berkeley, Calif.—p 333.
Concentration Gradient in Corn Stalks A M Hurd Karber, Washington, D C —p 341.
Iso Electric Zone of Typhoid Agglutinin. R Ottenberg and F. A. Stenbuck, New York —p 345
Combination of Salts and Proteins II. Method for Determination of Concentration of Combined Ions from Membrane Potential Measurements. J. H. Northrop and M. Kunitz, New York —p. 351.
Electro Endosmosis Through Mammalian Serous Membranes III. Relation of Current Strength and Specific Resistance to Rate of Liquid Transport: Transport Rate with Serum. S Mudd, New York —p 361.
Galvanic Stimulation of Luminescence in Pelagia Noctiluca A. R. Moore, New Brunswick, N. J —p 375.
Evidence of Factor Associated with Actively Functioning Tissues Which Gives to Sugar Cane Plants Resistance to Invasion of Fungi and Other Micro organisms. H. A. Lee, Honolulu, T. H —p. 381.

Journal of Infectious Diseases, Chicago

38: 1-100 (Jan.) 1926

Studies on Respiratory Diseases XXV. Influence of Certain Electrolytes and Nonelectrolytes on Bile Solubility of Pneumococci. I. S Falk and S Y. Yang, Chicago —p. 1.
Id XXVI. Lysis of Pneumococci by Sodium Oleate. I. S. Falk and S Y. Yang, Chicago —p 8
Mechanism of Russell Double Sugar Tube. M. W. Hall and G R. Lacy, Manila, P. I.—p. 14.
*Six Thousand Five Hundred Cases of Lobar Pneumonia at Cook County Hospital, Chicago. F. B. Kelley, Chicago.—p 24.
Viability of B Coli and B. Aerogenes in Soil. C. E Skinner and T. T. Murray, New Brunswick, N. J —p. 37.
Effect of Clostridium Histolyticum on Tyrosine in Proteins. C. G King and L V. Hjort, Pittsburgh.—p. 42.
*Diplococcus from Measles: Prevention of Measles by Immune Goat Serum. R Tunnicliff and A. L. Hoyne, Chicago —p. 48.
Morphologic Variations of Bacteria in Lag Phase. A. T. Henrici, Minneapolis —p 54
Relations of Surface Tension to Bacterial Phenomena. M. Frobisher, Jr, Baltimore —p. 66.
Carbon Dioxide as Factor in Growth of Tubercle Bacillus and Other Acid Fast Organisms. G. E. Rockwell and J. H. Highberger, Cincinnati.—p. 92.

Mortality of Pneumonia.—The mortality among the 6,531 cases of lobar pneumonia reviewed by Kelley was 36 per cent. The case fatality among the negroes was from 5 to 13 per cent below that of the whites.

Prevention of Measles.—The serum of a goat convalescing from a reaction produced by the inoculation of the green producing measles diplococci previously described by Tunnicliff and Hoyne protected rabbits against a subsequent injection of infective material from measles. The rabbits injected with normal goat serum and those untreated showed some or all of the characteristics of measles in rabbits—a rise of temperature, Koplik spots and an eruption. Convalescent goat serum protected human beings against measles as effectively as convalescent human measles serum when injected on the first and second days after exposure to measles By intracutaneous tests in normal rabbits, the serum of goats injected with diplococci from measles, as well as convalescent human measles serum, were shown to neutralize the action of killed measles diplococci, while serum of normal goats has no such effect. The serum of one immune goat was found toxic to nearly all persons injected with it, but after eight months preservation, it appears to have lost its toxic effect.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

26: 397-500 (Jan.) 1926

*Chlorocodon Whiteii: Constituents and Pharmacologic Actions. W. J. Dilling, Liverpool, England —p 397.
Influence of Histamine on Intestinal Secretion of Dog. W. Koskowski, Baltimore —p 413.
Tannin Occurring in Kino of Eucalyptus Calophylla. A. McGookin and I. M. Heilbron —p 421.
*Bacterial Chemotherapy with Special Reference to Mercury Dyestuffs G W. Raiziss, M. Severac and J. C Moetsch, Philadelphia —p 447.
*Chemotherapy of Bacterial Infections I. Action of Acriflavine, Gentian Violet and Mercurochrome in Experimental Bacterial Infections E. L. Walker and M. A Sweeney, San Francisco —p 461
Morphine Miosis. V. E. Henderson and R. W. Graham, Toronto, Can. —p 469
Narcotic Action of Propylene. J. T. Halsey, C. Reynolds and W. A. Prout, New Orleans —p 479

Pharmacology of Chlorocodon Whiteii. — *Chlorocodon whiteii* (Hook. f.) is an asclepiadaceous plant, indigenous in tropical and subtropical Africa from Guinea to Natal. The roots have been used for hundreds of years apparently as an "alterative" Dilling isolated about 1.2 per cent of a yellow, liquid volatile oil, having a powerful coumarin-like odor; about 2 8 per cent of a brown fixed oil, melting at 50 C.; 20 per cent of glucose; a trace, 0 7 per cent, of a resin, and about 0 045 per cent of a glucoside. The volatile oil is the most important pharmacologic constituent; it is rubefacient, irritant to mucous membranes, relaxes the mammalian intestine and produces a type of poisoning resembling that of other volatile oils. Its presence accounts for the "stimulant" effects described in Africa as arising from the drug and, in association with the fixed oil and sugar, may explain also the laxative effects. The glucoside has been shown to cause, in frogs, respiratory paralysis and paralysis of the spinal reflexes by, it is suggested, an action on the motor cells. The heart is also influenced; a preliminary improvement in the force of the beat and in diastolic tone soon, however, gives place to weakening of the systole, especially of the auricles, depression of the auriculoventricular conductivity and the ultimate production of heart block prior to cessation of rhythm in both cavities. The action is a direct paralysis of the irritability and conductivity of the muscle.

Bacterial Chemotherapy; Mercury Dyestuffs.—Raiziss et al. describe a method for testing chemical compounds for their therapeutic efficiency in experimental staphylococcic septicemia in rabbits. Mercury dyestuffs are generally less toxic than other organic mercury compounds. It is possible to detoxify mercury considerably by combining it with dyestuffs, as has been demonstrated on some newly synthesized products. The authors' experimental findings show that mercury dyestuffs exert some favorable influence on staphylococcic septicemia. One compound, benzurin, saved animals from infection to the extent of 70.8 per cent.

Chemotherapy of Bacterial Infections.—The results of experiments made by Walker and Sweeney substantiate to a certain extent the clinical claims that acriflavine, gentian violet and mercurochrome-220 soluble have a therapeutic action in bacterial infections. The therapeutic action is not equal for the several substances against all types of bacterial infections. Gentian violet is effective only in staphylococcic infections. Mercurochrome, taking into consideration its action subcutaneously, is more effective in streptococcic than staphylococcic infections. Acriflavine is more effective in staphylococcic than streptococcic infections when brought into direct contact with the bacteria, but is wholly ineffective against both types of infection when distributed by the circulating blood to the bacteria. All three substances, even when brought into immediate contact with the invading bacteria, fail completely to influence the fatal course of infections with the gram-negative Friedländer bacillus. Whether or not they would prove equally ineffective against infections with other gram-negative bacteria remains to be proved by experiment. The therapeutic action of these chemicals is in general greatly reduced if not wholly destroyed when they are not brought into immediate contact with the infecting bacteria. The notable exception is mercurochrome in streptococcic infections, which, though inferior to acriflavine by intraperitoneal injection, is equally, though feebly, effective by either intraperitoneal or subcutaneous routes.

Laryngoscope, St. Louis

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Tuberculosis of Middle Ear: Case. D. B. Hayden, Chicago, and A. I. Cohen, Boston.—p. 883.
Cerebellar Abscess with Sensory Aphasia. I. H. Jones, Los Angeles.—p. 893.
Clinical Value and Diagnostic Significance of Newer Tests for Hearing. E. P. Fowler, New York.—p. 896.
Ligation of External Carotid Artery for Control of Idiopathic Nasal Hemorrhage. F. T. Hyde, Port Angeles, Wash.—p. 899.
Partial Turbinectomy with Clamp and Cautery. M. L. Harris, Brooklyn.—p. 903.
Chronic Tonsillitis at Various Ages. J. I. Berlin, Jersey City, N. J.—p. 904.
Suction Tonsillectomy. J. B. H. Waring, Blanchester, Ohio.—p. 906.
Antrum Infections as Etiologic Factor in Remote Pathologic Changes. F. E. V. Shore, Des Moines, Iowa.—p. 917.
Psychoses Resulting from Toxins of Chronic Maxillary Sinusitis Coupled with Left Hyperphonia of 8.5 Per Cent. C. Ide, Long Beach, Calif.—p. 924.
Two Cases of Chronic Frontal Sinusitis. G. L. Whelan, Philadelphia.—p. 926.
Unsuspected Foreign Body in Larynx; Two Cases. P. Stiles, Birmingham, Ala.—p. 931.
Lung Abscess and Pneumothorax as Sequelae of Esophageal Foreign Body. E. L. Myers, St. Louis.—p. 934.
Cocaine in Nasal Anesthesia: Atempt to Estimate Amount Actually Getting to Patient when Solutions or Paste Are Used as Topical Applications. E. F. Howard, Vicksburg, Miss.—p. 938.
Helpful Instrument in Catheterization of Eustachian Tube. L. Blumenfeld, Brooklyn.—p. 940.
Use of Gold Wire Splints in Intranasal Plastic Surgery. W. W. Carter, New York.—p. 942.
New Double Nasal Speculum. M. J. Mandelbaum, New York.—p. 944.
New Artificial Ear Drum. H. J. Isaacs, New York.—p. 946.
New Paracentesis Knife. S. Cohen, Philadelphia.—p. 949.

Maine Medical Association Journal, Portland

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What is Wrong With Tonsil Operation? F. T. Hill, Waterville.—p. 1.

Medical Journal and Record, New York

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Influence of Oral Sepsis in Production of Disease. F. G. Crookshank, London.—p. 73.
Pneumonia During Past Ten Years. R. D. Moffett, New York.—p. 79.
Prevention of Scarlet Fever. J. C. Small, Philadelphia.—p. 82.
Congenital Diaphragmatic Hernia with Complete Rotation of Stomach. N. Alpert, Baltimore.—p. 84.
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Scientific Basis for Therapeutics. J. M. Taylor, Philadelphia.—p. 89.
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Differential Counting with Counting Chamber. A. J. Hinkleman, Oklahoma City.—p. 94.
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What Did Indians Know About Medicines and Healing Treatments? L. G. Herbert, Auburn.—p. 117.
Contributors to Science of Medicine. E. McDowell.—p. 119.

Minnesota Medicine, St. Paul

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Distinction Between Chronic Glomerulonephritis and Hyperpiesia (Primary Hypertension). E. T. Bell, Minneapolis.—p. 1.
*Etiology of Chronic Heart Muscle Disease of Frequent Occurrence in General Practice. F. Fahr, Minneapolis.—p. 5.
Heart Pain: Various Types and Clinical Differentiation. C. N. Hensel, St. Paul.—p. 8.
Bare Radium Tubes in Treatment of Tumors Around Head and Neck. F. A. Figi, Rochester.—p. 13.
Ureteral Stones. J. M. Culligan, St. Paul.—p. 19.
*Diagnosis of Renal Tuberculosis. G. J. Thomas, Minneapolis.—p. 22.
Fracture of Patella. B. S. Adams, Hibbing.—p. 28.
Memories of Salpêtrière. C. E. Riggs, St. Paul.—p. 31.
Disorders of Speech. S. Blanton, Minneapolis.—p. 35.

Etiology of Chronic Heart Disease.—The pathologic evidence as to the factors concerned in chronic heart muscle disease is thus summed up by Fahr: Hypertension is the important factor in the largest number of cases; coronary disease is the important factor in a large number—approximately one-fourth as many as hypertension not associated with coronary disease; hypertension and coronary disease are associated together in about as many cases as coronary disease alone; and various toxic agents, as yet frequently unknown, may cause a small percentage of cases of chronic heart muscle disease. Chronic myocarditis is a rare disease. Clinical evidence indicates that at least 75 per cent of all chronic heart muscle disease is associated with high blood pressure, and the high blood pressure is at least one very prominent factor in the left ventricular dilatation and heart failure. Clinical evidence for coronary sclerosis is not as frequently obtained in cases of coronary sclerosis as clinical evidence of hyperiesia is obtained in cases of hypertension heart. Attacks of angina pectoris, attacks of cardiac asthma, especially attacks of nocturnal cardiac asthma, and a negativity of the T wave in leads I and II are not infrequently evidence of coronary disease, but many cases of coronary sclerosis come to postmortem with no clinical evidence of disease. Necropsy material indicates that approximately 15 per cent of all cases of chronic heart muscle disease are associated with coronary sclerosis alone; about an equal number are associated with both hypertension and coronary sclerosis

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Relation of Silicosis to Tuberculosis—Riddell concludes from his study that silicosis is widespread, and is very frequently complicated by tuberculosis When silicosis is present, tuberculosis is often rapidly progressing

South Carolina Medical Association Journal, Greenville

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Southern Medical Journal, Birmingham, Ala.

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*Wider Usefulness of Blood Transfusion Necessity for Good Technic J S McLester, Birmingham, Ala —p 1
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Puerperal Infection Manifestations and End Results L A Calkins, University —p 623
Treatment of Puerperal Sepsis B H Gray, Richmond —p 626
Diagnostic Standards of Virginia Field Clinics E C Harper and C W Scott, Richmond —p 633
Indications For and Against Abdominal Drainage W D Kendig, Kenbridge —p 637
Cutaneous Tests in Diagnosis of Syphilis D C Smith, University —p 639
Challenge of Patient with Chronic Disease R L Raiford, Sedley —p 640
Graphic Presentation of Nutritional Disturbances of Infancy S Newman, Danville —p 642
Treatment of Atheromatous Heart in Final Stages of Decompensation A F Wood, Parksley —p 644

Tuberculosis of Weight-Bearing Joints. R. M. Hoover, Roanoke.—p. 646.
Statistical Study of Deaths Following Prostatectomy. R. M. Le Comte, Washington, D. C.—p. 647.
Present Status of Antisyphilitic Treatment. T. L. Driscoll, Richmond. —p. 651.
Electrotherapy as Exact Science. C. E. Bowles, Pulaski.—p. 653.
Complications Incident to Operative Treatment of Simple Goiter. A. P. Heineck, Chicago.—p. 659.
Intramuscular Injections of Sugar Solutions in Treatment of Tuberculosis. M. J. Payne, Staunton.—p. 667.
New Commandments for "Common Doctor." W. W. Brown, Shenandoah Junction, W. Va.—p. 668.

West Virginia Medical Journal, Charleston

22: 1-56 (Jan.) 1926

Use of Pituitary Extract in Obstetric Practice. J. R. Bloss, Huntington. —p. 1.
Management of Fractures of Femoral Shaft. A. G. Rutherford, Welch. —p. 6.
Clinical Significance of Convulsive Seizures. H. S. Ogilvie, Charleston. —p. 10.
Urology from General Practitioner's Standpoint. L. T. Price, Richmond. —p. 16.
Gastro-Intestinal History. W. E. Vest, Huntington.—p. 19.
Inguinal Hernia Complicated by Hernia of Ovaries and Tubes. W. N. Rowley, Huntington.—p. 23.
Sciatic Paralysis Following Snake Bite: Case. J. H. Craft, Springton. —p. 26.
Delayed Union. W. W. Golden, Elkins.—p. 27.
Fractures from Point of View of Workmen's Compensation Commissioner. L. Ott, Bluefield.—p. 29.

Wisconsin Medical Journal, Milwaukee

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Romance of Medicine. W. D. Haggard, Nashville, Tenn.—p. 2.
How Wisconsin Purchases Health for Its Citizens. E. E. Witte, Madison. —p. 7.
Use and Abuse of Drugs. A. S. Loevenhart, Madison.—p. 11.
What Do We Mean by "Naughtiness"? H. D. Singer, Wauwatosa.—p. 14.
Medical Practice Sixty Years Ago and Today. F. L. Holmes, Madison. —p. 16.
Health in Wisconsin Industry. F. W. Braun, Wausau.—p. 22.
Thirty-Eight Million Times Every Year. O. Lotz, Milwaukee.—p. 25.
Combating Smallpox in Lumber Camps of Wisconsin. A. V. De Neveu, Rhinelander.—p. 29.
Growth and Value of Medical Examination. W. A. Fricke, Madison. —p. 35.
Oldest Hospital in World: Hotel Dieu of Paris. J. A. Evans, La Crosse. —p. 38.
Educational Treatment of Mental Defectives in Wisconsin. A. L. Beier. —p. 44.

United States Veterans' Bureau Medical Bulletin, Washington, D. C.

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Unit System in Large Government Tuberculosis Hospitals. E. H. Bruns. —p. 7.
*Effect of Roentgen Rays on Blood of Roentgen-Ray Workers. P. B. Matz.—p. 10.
Social Work in Veterans' Bureau: History and Possibilities. F. A. Foster.—p. 17.
History of Hospitals. J. H. Ward.—p. 26.
Problem of Mentally Defective Ex-Service Men. I. J. Sands.—p. 32.
Tuberculous Spondylitis. H. D. Luse.—p. 43.
Treatment of Chronic Purulent Otitis Media. W. E. Joiner.—p. 53.
*Study of Larson's Ring Test Applied to 315 Cases of Pulmonary Tuberculosis. H. P. Bacon.—p. 56.
When is Diagnosis of Neurasthenia Justified? M. D. Clayton.—p. 61.
Case of Ludwig's Angina with Favorable Outcome. W. Hervey.—p. 65.

Effect of Roentgen Ray on Blood.—A complete blood examination was made of the 142 employees on duty in the roentgen-ray laboratories of the U. S. Veterans' Bureau service, and Matz reports the findings. There was no demonstrable abnormality of the cellular elements of the blood, either numerically or morphologically, with the exception of a few isolated cases.

Value of Larson's Test in Diagnosis of Pulmonary Tuberculosis.—Bacon reports the results of an attempt made to evaluate the Larson ring test as an aid in the diagnosis of pulmonary tuberculosis. The conclusion reached is that in the present state of development this reaction is of value but rather works toward confusion, owing to its certainty in well marked cases with extensive activity and its uncertainty in doubtful cases. A higher percentage of positive reactions was obtained in nontuberculous diseases than in the cases of tuberculosis in which there was a limited activity.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 41-76 (Jan. 9) 1926

Absorption and Elimination of Volatile Substances Through Lungs. Y. Henderson.—p. 41.
Change of Tension on Lens Capsules During Accommodation and Under Influence of Various Drugs. B. Graves.—p. 46.
*Physiotherapy in Treatment of Arthritis. R. G. Gordon.—p. 50.
*End-Results of Artificial Pneumothorax. S. V. Pearson.—p. 52.
Nature and Uses of Refractometric and Viscosimetric Tests. C. A. H. Franklin.—p. 53.
Delivery of Breech with Extended Legs. N. B. Hall and H. W. Page. —p. 54.
*Lumbar Rib of Unrecorded Type. J. Cumming.—p. 55.
*Torsion of Fallopian Tube: Case. J. C. Jefferson.—p. 55.
Pulmonary Edema in Child: Case. R. Kenefick.—p. 55.
Mitral Stenosis and Pulmonary Hemorrhage: Venesection; Recovery. P. P. Dalton.—p. 56.
*Unusual Fracture of Tibia. S. G. Gilmore.—p. 56.

Physiotherapy in Treatment of Arthritis.—Gordon considers only acute and chronic infective arthritis of nontuberculous origin, climacteric arthritis of metabolic origin, periarticular fibrositis and bursitis, and ostearthritis. The forms of physiotherapy discussed are massage, active and passive movements, stimulation by the faradic and galvanic current or the Bristowe coil, radiant heat, ionization and diathermy. Hydrotherapy is omitted, and the numerous other forms of electrical and mechanical appliances are not referred to, because Gordon doubts if anything can be effected by them which cannot be done by the simpler methods enumerated. Moreover, with the possible exception of radiant heat and diathermy, these are usually within the reach of any practitioner even in country districts; but heat can be applied by methods other than radiant heat, and ionization will serve much the same purpose as diathermy, if the latter is not procurable. Those skilled in massage and physiotherapy are available almost everywhere, and portable faradic and galvanic batteries are relatively inexpensive. Ionization can be given adequately with the latter, provided a milliamperemeter is attached.

End-Results of Artificial Pneumothorax.—Pearson reviews the end-results of artificial pneumothorax in a series of seventy-eight patients whose treatment was commenced from fifteen to three years ago. All the patients were in the third stage of pulmonary tuberculosis and were sputum positive. They had failed or were failing to respond to the ordinary sanatorium regimen. It is clear that artificial pneumothorax is successful when the results are compared with similar cases in which this treatment has not been possible on account of generally adherent pleura. Thirty-three patients are able to work; thirty-nine are dead; three are ill with tuberculosis; one died from other causes and two were lost sight of.

Unusual Lumbar Rib.—Cumming's patient had a lumbar rib rising from the transverse process of the third lumbar vertebra; it curved down and fused with the transverse process of the fourth lumbar vertebra on the same side. The patient had sustained a fracture of this rib close to the transverse process of the fourth lumbar vertebra, but the fragments were in good position.

Torsion of Fallopian Tube.—Jefferson's patient complained of a very definite area of pain and cutaneous hyperesthesia over the right buttock in the area supplied by the first lumbar nerve. The afferent fibers of the tube appear to belong to the eleventh and twelfth thoracic and the first lumbar nerves. In this case, at any rate, its innervation must have been definitely from the first lumbar segment as the thoracic segments were not affected. When the abdomen was opened, the right fallopian tube was found to be twisted, together with an abnormally long mesosalpinx, in a clockwise direction. It was black, swollen and intensely congested.

Unusual Fracture of Tibia.—In Gilmore's case the intracondylar eminence of the tibia was broken off and was lying transversely across the joint, on the head of the tibia, and between the two condyles of the femur. No other damage had been done to the bone or cartilage. The fragment was removed. The patient is able to walk without discomfort and even plays cricket.

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Ethical Practice of Medicine. H. E. Longsdorf, Mount Holly.—p. 25.

Public Health Journal, Toronto

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Southern Medical Journal, Birmingham, Ala.

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Virginia Medical Monthly, Richmond

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Puerperal Infection: Manifestations and End-Results. L. A. Calkins, University.—p. 623.
Treatment of Puerperal Sepsis. B. H. Gray, Richmond.—p. 626.
Diagnostic Standards of Virginia Field Clinics. E. C. Harper and C. W. Scott, Richmond.—p. 633.
Indications For and Against Abdominal Drainage. W. D. Kendig, Kenbridge.—p. 637.
Cutaneous Tests in Diagnosis of Syphilis. D. C. Smith, University.—p. 639.
Challenge of Patient with Chronic Disease. R. L. Raiford, Sedley.—p. 640.
Graphic Presentation of Nutritional Disturbances of Infancy. S. Newman, Danville.—p. 642.
Treatment of Atheromatous Heart in Final Stages of Decompensation. A. F. Wood, Parksley.—p. 644.

Tuberculosis of Weight-Bearing Joints. R. M. Hoover, Roanoke.—p. 646.
Statistical Study of Deaths Following Prostatectomy. R. M. Le Comte, Washington, D. C.—p. 647.
Present Status of Antisyphilitic Treatment. T. L. Driscoll, Richmond.—p. 651.
Electrotherapy as Exact Science. C. E. Bowles, Pulaski.—p. 653.
Complications Incident to Operative Treatment of Simple Goiter. A. P. Heineck, Chicago.—p. 659.
Intramuscular Injections of Sugar Solutions in Treatment of Tuberculosis. M. J. Payne, Staunton.—p. 667.
New Commandments for "Common Doctor." W. W. Brown, Shenandoah Junction, W. Va.—p. 668.

West Virginia Medical Journal, Charleston

22: 1-56 (Jan.) 1926

Use of Pituitary Extract in Obstetric Practice. J. R. Bloss, Huntington.—p. 1.
Management of Fractures of Femoral Shaft. A. G. Rutherford, Welch.—p. 6.
Clinical Significance of Convulsive Seizures. H. S. Ogilvie, Charleston.—p. 10.
Urology from General Practitioner's Standpoint. L. T. Price, Richmond.—p. 16.
Gastro-Intestinal History. W. E. Vest, Huntington.—p. 19.
Inguinal Hernia Complicated by Hernia of Ovaries and Tubes. W. N. Rowley, Huntington.—p. 23.
Sciatic Paralysis Following Snake Bite: Case. J. H. Craft, Springton.—p. 26.
Delayed Union. W. W. Golden, Elkins.—p. 27.
Fractures from Point of View of Workmen's Compensation Commissioner. L. Ott, Bluefield.—p. 29.

Wisconsin Medical Journal, Milwaukee

25: 1-56 (Jan.) 1926

Romance of Medicine. W. D. Haggard, Nashville, Tenn.—p. 2.
How Wisconsin Purchases Health for Its Citizens. E. E. Witte, Madison.—p. 7.
Use and Abuse of Drugs. A. S. Loevenhart, Madison.—p. 11.
What Do We Mean by "Naughtiness"? H. D. Singer, Wauwatosa.—p. 14.
Medical Practice Sixty Years Ago and Today. F. L. Holmes, Madison.—p. 16.
Health in Wisconsin Industry. F. W. Braun, Wausau.—p. 22.
Thirty-Eight Million Times Every Year. O. Lotz, Milwaukee.—p. 25.
Combating Smallpox in Lumber Camps of Wisconsin. A. V. De Neveu, Rhinelander.—p. 29.
Growth and Value of Medical Examination. W. A. Fricke, Madison.—p. 35.
Oldest Hospital in World: Hotel Dieu of Paris. J. A. Evans, La Crosse.—p. 38.
Educational Treatment of Mental Defectives in Wisconsin. A. L. Beier.—p. 44.

United States Veterans' Bureau Medical Bulletin, Washington, D. C.

2: 1-102 (Jan.) 1926

Unit System in Large Government Tuberculosis Hospitals. E. H. Bruns.—p. 7.
*Effect of Roentgen Rays on Blood of Roentgen-Ray Workers. P. B. Matz.—p. 10.
Social Work in Veterans' Bureau: History and Possibilities. F. A. Foster.—p. 17.
History of Hospitals. J. H. Ward.—p. 26.
Problem of Mentally Defective Ex-Service Men. I. J. Sands.—p. 32.
Tuberculous Spondylitis. H. D. Luse.—p. 43.
Treatment of Chronic Purulent Otitis Media. W. E. Joiner.—p. 53.
*Study of Larson's Ring Test Applied to 315 Cases of Pulmonary Tuberculosis. H. P. Bacon.—p. 56.
When is Diagnosis of Neurasthenia Justified? M. D. Clayton.—p. 61.
Case of Ludwig's Angina with Favorable Outcome. W. Hervey.—p. 65.

Effect of Roentgen Ray on Blood.—A complete blood examination was made of the 142 employees on duty in the roentgen-ray laboratories of the U. S. Veterans' Bureau service, and Matz reports the findings. There was no demonstrable abnormality of the cellular elements of the blood, either numerically or morphologically, with the exception of a few isolated cases.

Value of Larson's Test in Diagnosis of Pulmonary Tuberculosis.—Bacon reports the results of an attempt made to evaluate the Larson ring test as an aid in the diagnosis of pulmonary tuberculosis. The conclusion reached is that in the present state of development this reaction is of value but rather works toward confusion, owing to its certainty in well marked cases with extensive activity and its uncertainty in doubtful cases. A higher percentage of positive reactions was obtained in nontuberculous diseases than in the cases of tuberculosis in which there was a limited activity.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 41-76 (Jan. 9) 1926

Absorption and Elimination of Volatile Substances Through Lungs. Y. Henderson.—p. 41.
Change of Tension on Lens Capsules During Accommodation and Under Influence of Various Drugs. B. Graves.—p. 46.
*Physiotherapy in Treatment of Arthritis. R. G. Gordon.—p. 50.
*End-Results of Artificial Pneumothorax. S. V. Pearson.—p. 52.
Nature and Uses of Refractometric and Viscosimetric Tests. C. A. H. Franklin.—p. 53.
Delivery of Breech with Extended Legs. N. B. Hall and H. W. Page.—p. 54.
*Lumbar Rib of Unrecorded Type. J. Cumming.—p. 55.
*Torsion of Fallopian Tube: Case. J. C. Jefferson.—p. 55.
Pulmonary Edema in Child: Case. R. Kenefick.—p. 55.
Mitral Stenosis and Pulmonary Hemorrhage: Venesection; Recovery. P. P. Dalton.—p. 56.
*Unusual Fracture of Tibia. S. G. Gilmore.—p. 56.

Physiotherapy in Treatment of Arthritis.—Gordon considers only acute and chronic infective arthritis of nontuberculous origin, climacteric arthritis of metabolic origin, periarticular fibrositis and bursitis, and osteoarthritis. The forms of physiotherapy discussed are massage, active and passive movements, stimulation by the faradic and galvanic current or the Bristowe coil, radiant heat, ionization and diathermy. Hydrotherapy is omitted, and the numerous other forms of electrical and mechanical appliances are not referred to, because Gordon doubts if anything can be effected by them which cannot be done by the simpler methods enumerated. Moreover, with the possible exception of radiant heat and diathermy, these are usually within the reach of any practitioner even in country districts; but heat can be applied by methods other than radiant heat, and ionization will serve much the same purpose as diathermy, if the latter is not procurable. Those skilled in massage and physiotherapy are available almost everywhere, and portable faradic and galvanic batteries are relatively inexpensive. Ionization can be given adequately with the latter, provided a milliamperemeter is attached.

End-Results of Artificial Pneumothorax.—Pearson reviews the end-results of artificial pneumothorax in a series of seventy-eight patients whose treatment was commenced from fifteen to three years ago. All the patients were in the third stage of pulmonary tuberculosis and were sputum positive. They had failed or were failing to respond to the ordinary sanatorium regimen. It is clear that artificial pneumothorax is successful when the results are compared with similar cases in which this treatment has not been possible on account of generally adherent pleura. Thirty-three patients are able to work; thirty-nine are dead; three are ill with tuberculosis; one died from other causes and two were lost sight of.

Unusual Lumbar Rib.—Cumming's patient had a lumbar rib rising from the transverse process of the third lumbar vertebra; it curved down and fused with the transverse process of the fourth lumbar vertebra on the same side. The patient had sustained a fracture of this rib close to the transverse process of the fourth lumbar vertebra, but the fragments were in good position.

Torsion of Fallopian Tube.—Jefferson's patient complained of a very definite area of pain and cutaneous hyperesthesia over the right buttock in the area supplied by the first lumbar nerve. The afferent fibers of the tube appear to belong to the eleventh and twelfth thoracic and the first lumbar nerves. In this case, at any rate, its innervation must have been definitely from the first lumbar segment as the thoracic segments were not affected. When the abdomen was opened, the right fallopian tube was found to be twisted, together with an abnormally long mesosalpinx, in a clockwise direction. It was black, swollen and intensely congested.

Unusual Fracture of Tibia.—In Gilmore's case the intracondylar eminence of the tibia was broken off and was lying transversely across the joint, on the head of the tibia, and between the two condyles of the femur. No other damage had been done to the bone or cartilage. The fragment was removed. The patient is able to walk without discomfort and even plays cricket.

1: 77-126 (Jan. 16) 1926

Insulin Treatment of Diabetes. J. A. Nixon.—p. 77.
*Novasurol and Diuretics in Cardiac Edema. C. G. Lambie.—p. 80.
Beta-Eucaine Borate. A. J. Copeland.—p. 82.
Value of Borocaine in Ophthalmology. T. H. Butler.—p. 83.
Use of Borocaine Borate and Beta-Eucaine Borate for Urethral Anesthesia. R. Coyte.—p. 84.
Middle Ear Disease with Intracranial Complications. H. M. Wharry.—p. 85.
*Nonoperative Treatment of Pyloric Stenosis. J. L. Meagher.—p. 87.
Future of Gallstone Patients. G. Monod and M. Rouzaud.—p. 90.
*Tryparsamide in Treatment of Sleeping Sickness. A. T. Schofield.—p. 92.
*Acute Retrobulbar Neuritis: Ten Cases. F. Heckford.—p. 93.
Diathermy in Treatment of Prostatic Obstruction. T. E. Hammond.—p. 94.
*Erysipelas Treated by Blood Injection. J. N. Deacon.—p. 95.
Labor Complicated by Uterovesical Fistula. A. Rubins.—p. 96.
Appendicitis in Hernial Sac. T. W. H. Burne.—p. 96.

Diuresis in Cardiac Edema.—Lambie finds that urea may still cause diuresis. Urea filters through the glomeruli, but is reabsorbed with difficulty from the urinary tubules. Consequently, the urea in the tubules, in virtue of its osmotic pressure, opposes the reabsorption of water by the tubule cells, so that a greater proportion of the water which filters through the glomeruli escapes the urine. Thus, the volume of urine may be increased even when the rate of filtration is lessened, as in cardiac failure. Urea, however, undergoes concentration in the tubules, the tubular cells having to reabsorb water in opposition to the osmotic pressure exerted by the urea. But the process of concentration involves the performance of work, together with an increased oxygen consumption, in an organ which is being poorly supplied with oxygen. Urea, therefore, cannot be regarded as the ideal diuretic to employ, though no harm appears to result from its use, over short periods at any rate. When urea is no longer effective, novasurol may yet be capable of producing a large diuresis. There is no evidence that this action is obtained at the expense of damage to the kidneys.

Concentrated Feeding in Pyloric Stenosis.—Meagher is of the opinion that thick cereal feedings usually do not benefit a pyloric stenosis. Their failure is associated with the atonicity of the stomach musculature. Concentrated feeding, however, coupled with the administration of atropine and epinephrine, is a serviceable nonoperative treatment.

Tryparsamide in Trypanosomiasis.—Schofield regards tryparsamide as a very superior drug for the treatment of trypanosomiasis. No reaction or toxic effects were noted after it use.

Acute Retrobulbar Neuritis.—Heckford reports ten cases of acute retrobulbar neuritis, in none of which a satisfactory cause of the condition was found. In all but two cases there was rapid recovery of vision. They were not due to sinusitis. Heckford suggests that a considerable proportion of these cases will ultimately reveal themselves as disseminated sclerosis.

Blood Injection in Erysipelas.—Deacon records a case of erysipelas occurring after a submucous resection of the septum, in which subsidence of the disease followed on the injection of blood. On the seventh day, 20 cc. of blood was removed by a cold noncitrated syringe from a vein in the right arm and without delay injected intramuscularly into the left buttock. In the course of the next two or three days the erysipelas rapidly faded away.

China Medical Journal, Shanghai

39: 1067-1174 (Dec.) 1925

*Review of One Hundred Necropsies of Shanghai Chinese. F. Oppenheim.—p. 1067.
Carcinoma of Male Breast: Case. A. I. Ludlow.—p. 1076.
Review of Literature on Focal Infection. A. M. Dunlap.—p. 1079.
*Tumors of Placenta. J. P. Maxwell.—p. 1086.
Health and Industrial Conditions in China. C. T. Maitland.—p. 1089.
Chinese Medical Sayings and Proverbs. K. C. Wong.—p. 1099.
Health of School Child. I. M. Miller.—p. 1101.
*Experiments with Mesenteric Lymph Gland Extract from Spleenless Rabbits. R. H. Mole.—p. 1113.
Case of Trigeminal Neuralgia Treated by Injection Method. J. M. Gaston.—p. 1122.
Out of Frying Pan Into Fire. W. W. G. Aspland.—p. 1136.
Transplacental Malarial Infection: Two Cases. E. W. Buckingham.—p. 1140.

Nature of Diseases Occurring in Chinese.—Considering his findings as a whole, and comparing them with European necropsy material, Oppenheim says that the diseases of China are more primitive in character than those of the West. Infectious diseases are much more prevalent. The diseases caused by animal parasites, especially helminths, play an important rôle. Chronic septic conditions are very common and seem often to originate from the intestinal canal. Splenic enlargement is very common. Tuberculosis is just as prevalent in China, or even more so than in the West, but seems to show less tendency to heal once the secondary stage is reached. Syphilis is very widespread, a fact probably due to the lack of proper treatment in Shanghai as well as to the higher infective index. In other respects also the diseases of China can be regarded as of a more primitive nature than in the West. It appears that the organs connected with the beginning of metabolism in the intestine, liver and stomach are more often affected, and those at the end of metabolism, blood vessels, kidneys and nervous system, are less often affected than in the West.

Tumor of Placenta.—The tumor in Maxwell's case was an angio-endothelioma of the chorion. The patient had complained of abdominal pain and was seven months pregnant. No fetus could be felt, or fetal heart heard. A diagnosis of ovarian cyst was made, and on account of the pain and distress the abdomen was opened. The tumor proved to be a placental tumor. The uterus was removed and a seven months' child was extracted, but it did not respond to efforts made to start respiration.

Mesenteric Lymph Glands Function as Spleen.—Experiments were undertaken by Mole to ascertain whether in the absence of the spleen, the mesenteric lymph glands take over any part of the functions of the spleen. The results were as follows: All the spleenless animals, after injection with mesenteric lymph gland extract obtained from a spleenless animal, showed a slight leukocytosis. In the case of thirteen injections of the extract from a spleenless animal into normal animals, there was a decreased leukocyte count after three hours in six, and after twenty-four hours in nine. Six out of seven spleenless animals, when injected with the gland extract of a normal animal, showed an increased leukocyte count. Four only of seven normal animals showed a leukocytosis when injected with the gland extract of a normal animal, after three hours; one other showed a small leukocytosis, and two others showed a leukopenia after twenty-four hours. On the basis of these results Mole suggests that in the absence of the spleen the mesenteric lymph glanads may, by an internal secretion, stimulate the bone marrow so as to influence the number of leukocytes in the circulation. This action of the mesenteric lymph gland secretion is modified in the normal animal by the presence of the spleen.

Lancet, London

1: 111-164 (Jan. 16) 1926

Foreign Bodies Impacted in Food and Air Passages. W. Milligan.—p. 111.
*Failed Forceps Cases. L. Phillips.—p. 113.
*Differentiation of Food Poisoning Bacteria. H. C. Brown, J. T. Duncan and T. A. Henry.—p. 117.
Gonorrhea in Male: Four Hundred Cases. E. R. T. Clarkson and W. S. Dyer.—p. 119.
Nonvolatile Aliphatic Compounds in General Anesthesia. R. K. Lambert.—p. 121.
*Herpes Zoster in Spontaneous Subarachnoid Hemorrhage. W. J. Adie.—p. 124.
*Easy Method of Performing Tracheotomy. K. H. Digby.—p. 124.
Treatment of Pulmonary Tuberculosis with Sanocrysin. T. R. Elliott.—p. 126.
*Acute Hemorrhagic Nephritis in Children. W. G. Wyllie and A. Moncrieff.—p. 128.
*Operation for Opponens Paralysis of Thumb. B. W. Howell.—p. 131.
Eucalyptus Poisoning: Case. L. M. Chesney.—p. 131.

Failed Forceps Cases.—Phillips asserts that difficult and unsuccessful forceps deliveries are usually preventable by antenatal supervision, ending in induction of labor at some time between the thirty-sixth and thirty-eighth week of gestation. Among 434 cases analyzed by Phillips there was only one maternal death (0.23 per cent); 340 women were delivered spontaneously with a fetal and neonatal mortality of thirty-seven (10.8 per cent). Ninety-four were delivered by forceps with a mortality of 17 per cent. The fetal and neonatal mortality for the whole series was 13.3 per cent. For the cases of from thirty-six to forty weeks' duration, it was 11.7 per cent. The higher mortality occurred during the thirty-ninth and fortieth weeks, probably because of some of these cases being left a little too long. The majority of the cases of contracted pelvis encountered in the south of England are of the moderate kind, rarely needing cesarean section, but frequently ending in difficult forceps delivery and death of the child, and sometimes in failed forceps delivery and perforation. It is this type of case, Phillips says, which is amenable to treatment by induction between the thirty-sixth and thirty-eighth weeks. Earlier than the thirty-sixth week the babies usually weigh under 5 pounds (under 2.3 Kg.); they are reared with difficulty and often fail to stand the stress of labor. If in a case of disproportion, when the patient is examined at or before the thirty-sixth week, the head cannot be pushed into the brim, cesarean section at term is indicated. If the head at the thirty-sixth week can just be pushed into the brim, with great difficulty, induction of labor should be performed within a few days. If at the thirty-sixth week the head pushes in easily, weekly repetitions of the test should be carried out, induction being performed when the head can just be pushed in with difficulty, the patient never being allowed to pass beyond the fortieth week. If a patient is to be seen once only in the antenatal period, it should be in the thirty-sixth week.

Differentiation of Food Poisoning Bacteria.—Brown et al. urge the use of sodium salts of citric *d*-tartaric, *l*-tartaric, *m*-tartaric, fumaric and mucic acids as offering the most valuable of the biochemical means of differentiating the various members of the important Salmonella group.

Herpes Zoster in Spontaneous Subarachnoid Hemorrhage.—Adie records the occurrence of an herpetic eruption of nerve root distribution in two cases of spontaneous subarachnoid hemorrhage. In one case, a copious eruption of herpetic vesicles appeared on the upper part of the chest and over the deltoid muscle on the left side in the area of skin supplied by the fourth and fifth cervical sensory nerve roots. In the second case, an herpetic eruption appeared the third day of the illness on the right side of the chest in the lower part of the area supplied by the fourth cervical sensory nerve root.

Performance of Tracheotomy.—With the child lying on its back, Digby raises the chin so far that the front of the neck is a flat surface from the sternum to the point of the chin. A median skin incision is made, 1½ inches (3.7 cm.) long, vertically downward, starting from the upper border of the cricoid cartilage. The deep fascia uniting the sternohyoid muscles is divided vertically. The cricoid cartilage is exposed and the fascia, attached to its lower border, is incised transversely to expose the commencement of the trachea. A single closed pair of pressure forceps is passed downward and backward, close to the trachea and behind the isthmus of the thyroid gland. The tissue thus raised is clamped close to the middle line first by one pair of forceps and then by a second pair placed parallel. The fascia and thyroid isthmus between the forceps are then divided, and the two pressure forceps are each rotated in a lateral direction through 90 degrees and the handles are slightly depressed so as to raise the points. This maneuver raises the trachea to the level of the skin, exposing the first four rings with utmost clearness. The vertical incision (through the second, third and fourth rings) should not be made by the "guarded stab" but should be gently incised with the knife, held pen holder fashion, the little finger of the right hand resting on the upper border of the manubrium.

Acute Hemorrhagic Nephritis in Children.—Acute nephritis in children is divided by Wyllie and Moncrieff into two main types. To one of these the name "acute hemorrhagic" is given; the other type is the more widely known variety, variously called "parenchymatous" or "exudative." Acute hemorrhagic nephritis is comparatively common. Twenty-two patients were admitted in three years to the Great Ormond-Street Hospital. From a study of these twenty-two cases this condition has been found to possess certain definite clinical features, which enable it to be differentiated. Pathologically, it is probably a form of streptococcal embolism of the kidneys, originating from some definite focus of sepsis elsewhere in the body. The prognosis is much better than in the other forms of acute nephritis, and, as a rule, no chronic inflammation of the kidneys results.

Operation for Opponens Paralysis of Thumb.—The operation described by Howell effects a transposition of the tendon of the flexor longus pollicis. The tendon is divided at the wrist and the distal end passed subcutaneously around the ulnar border of the first phalanx and out. Next the tendon is passed back again through this incision, passing obliquely across the tendon of the extensor longus pollicis, and comes to lie subcutaneously on the thenar eminence. The distal and proximal ends of the tendon are then united with chromicized catgut (twenty day) and the skin closed. The thumb is kept in opposition by means of plaster of Paris. Graduated faradic stimulation of the flexor longus pollicis is commenced on the fourth day, and the stitches are removed on the tenth. Within from two to three months strong sustained voluntary opposition of the thumb is effected by the transposed tendon.

Quarterly Journal of Medicine, London

19: 1-112 (Oct.) 1925

*Sulphemoglobinemia. L. P. Garrod.—p. 86.
*Clinical Aspect of Bundle Branch Block. J. Cowan and J. C. Bramwell. —p. 95.

CORRECTION

A transposition of paragraphs occured in two abstracts from this journal, published in THE JOURNAL, Jan. 2, 1926, p. 73. The two abstracts should have read as follows:

Sulphemoglobinemia.—In two cases of sulphemoglobinemia reported by Garrod, the nitrosobacillus was obtained in culture from the stools. Examination by the same technic of stools in other diseases failed to reveal the bacillus. Recovery in two instances took place during the administration in large doses of a vaccine prepared from the nitrosobacillus. After recovery no growth of the organism could be obtained from the stools, and substances immune to it were found in the blood serum of both patients.

After-History of Bundle Branch Block Cases.—Twenty-four cases, all of which presented atypical electrocardiogram of bundle branch block, have been studied by Cowan and Bramwell, and their after-histories followed up. Fourteen of the patients have died, ten within one year, and three others within eighteen months of coming under observation. Seven patients died of progressive heart failure with venous congestion, two of acute "heart attacks" and five from causes not directly connected with the heart. The remaining ten patients are alive at the present time. One has now been under observation for more than four years, and two for more than three years. Of these, seven are enjoying quite good health and are able to carry on a fairly active life. But in one only of these patients has there been any evidence that the lesion is tending to clear up. The onset of this condition appears generally to be insidious but may occasionally be abrupt. The principal symptom in most patients was either shortness of breath (thirteen cases) or pain of an anginal nature (eight cases). Cardiac enlargement was well marked in fourteen cases. The superficial arteries were obviously diseased in five cases. There was definite hypertension in eleven cases and an associated valvular lesion in eleven cases. Auricular fibrillation was present in five cases, and complete auriculoventricular block in one case. The condition appears generally to be due to a secondary fibrosis of the heart muscle. If the lesion is localized, the prognosis is favorable, but if it is part of a widespread degenerative process the outlook is grave. The striking immunity of the left branch, which was involved in only one case in the series, is probably to be explained by its anatomic disposition and by its rich blood supply. The frequency of the condition has probably been underestimated, because of the fact that it can only be recognized by electrocardiographic methods. Its presence indicates a definite myocardial lesion, but if unaccompanied by signs of cardiac insufficiency is not necessarily of grave prognostic significance.

Archives de Médecine des Enfants, Paris

28: 729-829 (Dec.) 1925

*Asthma in Children. J. Comby.—p. 729.
Colon Bacillus Toxemia in Children. M. Michalowicz.—p. 749.
*Vaccine in Treatment of Paranephritis. K. Cieszynski.—p. 762.
*Myiasis of the Skin. J. Comby.—p. 768.

Asthma in Young Children.—Comby regards asthma in children as merely one link in the chain of the neuro-arthritic diathesis. The asthma developed first during the first three years of life in 76.66 per cent of his more than seventy-five cases of asthma in children, aged from 2 months upward. The disease was more frequent in boys than in girls; it was hereditary and similar in 58 per cent; hereditary and dissimilar in over 46 per cent of the cases. In several instances one of twins suffered with asthma, while the other twin was healthy. The affection was more common among the well-to-do than in poor families. Asthma appeared closely connected with infantile eczema. No improvement was noted after tonsillectomy. Tuberculosis or hypertrophied thymus did not seem to be responsible for the asthma, and intercurrent infections did not aggravate it. The prognosis is less grave in children than in adults. Injections of epinephrine with pituitary extract (0.5 cc. of the mixture) may help in the attacks. Dover's powder (not over 0.05 Gm. per year of age) may also be effectual. Plenty of vegetables, arsenic, potassium iodide and sulphur with little meat, are indicated in general treatment.

Autovaccine in Treatment of Paranephritis.—Cieszynski treated paranephritis in an infant, aged 16 months, with a staphylococcus autovaccine. The child gained 150 Gm. in two days following the first injection; 1,270 Gm. in three weeks. The tumor in the left kidney region disappeared by the eighth day of the treatment. No changes were noted under other methods continued for ten days before this treatment.

Case of Skin Myiasis.—Comby comments on a case of subcutaneous myiasis in a girl, aged 5. The affection presented multiple tumors, first on the neck, later on the face and scalp. Extraction of the larva was followed by recovery. Petges obtained good results with inunctions of an ointment composed of chrysarobine and iodine, 0.5 Gm. of each; lanolin, 10 Gm., and petrolatum, 40 Gm. The parasite was not discovered in this case.

Bulletin de l'Académie de Médecine, Paris

95: 27-55 (Jan. 12) 1926

Committee Report on Medical Examination of Railroad Employees.—p. 31.
*One Hundred Cases of Gastrectomy. H. Hartmann.—p. 44.
Imported Frozen Meat. Laure.—p. 47.
The Mechanical Syndrome from Hypotension in the Portal Circulation. H. Surmont.—p. 51.

Remote Results After Gastrectomy for Cancer.—There were no recurrences after gastrectomy in 30 per cent of the 100 operative cases under observation for from three to twenty-one years. Therefore the recovery in the 30 per cent seems to be definitive. In 93 per cent of the cases with recurrence, it appeared within the first two years after the operation. They were equally frequent with any type of cancer, regardless of the presence or absence of free hydrochloric acid. Metastases were most frequent in the lymphatic glands and peritoneum. Cancer growth in the postoperative scar, observed in two instances, was evidently due to accidental sowing of cancer cells.

Comptes Rendus de la Société de Biologie, Paris

93: 1461-1556 (Dec. 18) 1925. Partial Index

Cholesterol Producing Function of the Spleen. J. E. Abelous and L. C. Soula.—p. 1466.
Action of Sparteine. F. and L. J. Mercier.—p. 1468.
*Echinococcosis in a Cat. A. Henry et al.—p. 1470.
Action of Camphor on Heart and Muscle. L. Bouisset.—p. 1474.
*Local Immunity. L. Goldenberg and L. Panisset.—p. 1476.
Action of Mixtures of Rabies and Herpes Viruses. P. Remlinger and J. Bailly.—p. 1486.
*Biologic Attenuation of Filtrable Virus. M. Belin.—p. 1488.
*Experimental Syphilis. S. Mutermilch and S. Nicolau.—p. 1497.
*Radium and the Bacteriophage. A. Lacassagne and A. Paulin.—p. 1502.
*The Esophagus in Cirrhosis of the Liver. Gilbert et al.—p. 1511.
Intratracheal Injection of Insulin. Mauriac and Gandy.—p. 1524.
*Necropsy Findings in Leprosy. J. Sabrazès.—p. 1526.
*Experimental Sarcoma from Roentgen Ray. Goebel and Gérard.—p. 1537.
*The Thyroid and Eclampsia. M. V. da S. Moreira.—p. 1541.
*Culture of Tubercle Bacillus. J. R. Ramos Passos.—p. 1552.
Cerebrospinal Fluid in Tuberculous Meningitis. S. Benoliel.—p. 1553.
Tenia in an Infant. Da Silva Correia.—p. 1555.

Echinococcosis in a Cat.—Henry, Leblois and Dervaux found an enormous number of echinococcus daughter cysts in the abdominal cavity of a cat, 7 years old. At necropsy all the organs appeared normal, except that no traces of the right kidney could be found. The mother cyst had probably been located in this kidney, entailing gradually its complete destruction. They say that only four cases of peritoneal hydatid cysts in dogs have been published, and only one in the cat.

Rôle of Lymph Glands in Local Immunization.—Goldenberg and Panisset injected rabbits intradermally with antistaphylococcus vaccine. The inoculated area developed edema with enlargement of the lymph nodes. On subcutaneous injection of india ink or methylene blue, the lymph glands showed the stain. Thus was demonstrated the physiologic connection of the skin with the corresponding lymphatics, and this is probably responsible for the local immunization. Methylene blue injected intradermally did not appear in the urine until the fifth hour; injected intramuscularly, in one hour. Evidently intradermal injections may be advantageously used to avert too rapid absorption of certain drugs, as, for instance, potassium iodide or insulin.

Simultaneous Culture of Two Dermotropic Viruses.—Belin inoculated guinea-pigs and heifers with vaccine virus, also with foot and mouth virus, at the same time, but in different places. The initial reaction to each of the viruses appeared as usual; then the foot and mouth virus, carried by the blood stream, settled at all the points where the vaccine virus had been injected, and there was simultaneous cultivation of both viruses. This blending of vaccine and foot and mouth virus induced in heifers only a mild form of foot and mouth disease, testifying to an attenuated virulence of the virus. The virulence of the vaccine virus was not modified. The foot and mouth virus remained attenuated even after successive passages through heifers, and became incapable of inducing true foot and mouth disease. It thus resembles antismallpox vaccine. He suggests that this dual method of cultivating viruses, to attenuate them, may aid in control of other diseases.

Serodiagnosis of Experimental Syphilis.—The Meinicke turbidity test was negative in all the healthy rabbits and always positive in those with experimental syphilis. The test proved positive even before appearance of clinical manifestations in 50 per cent of the rabbits. The reaction was negative in rabbits infected with *Spirochaeta cuniculi* (spontaneous spirochetosis).

Action of Radium on the Bacteriophage.—Lacassagne and Paulin assert that emanations of radium exert a destructive action on the bacteriophage. The action is analogous to that on toxins and filtrable viruses, observed by Ferroux and Mutermilch.

Esophagoscopy in Cirrhosis of the Liver.—Gilbert and his co-workers observed fatal hemorrhage from varices of the esophagus, in a case of venous cirrhosis of the liver. Since then they systematically apply endoscopy to the esophagus in patients with ascites from cirrhosis. A varicose condition of the esophagus was found in all their twelve patients with this disease. The almost constant presence of blood in the stools may have been due to oozing of blood in the esophagus which had passed unnoticed. The esophagoscopy was well tolerated by the patients, and this encourages its use with electrocoagulation to arrest grave hemorrhage from the esophagus.

Necropsy Findings in Leprosy.—Sabrazès had an opportunity for necropsy in a case of extensive leprosy. The liver and spleen were crowded with leprosy bacilli, with comparatively few in the kidneys, lungs and bone marrow. The bacilli were not detected in the spinal cord or brain. There were no bacilli in the bile, the bacilli being retained by the macrophages of the Kupffer type. The findings are different from those in acute tuberculosis, in which elimination of tubercle bacilli by the bile is manifest.

Experimental Sarcoma from Roentgen Ray.—Goebel and Gérard exposed twenty guinea-pigs to the repeated action of roentgen rays. One of the animals developed a malignant tumor, after application of the rays to the back. Necropsy revealed a sarcoma of the polymorphous type. A latent period had been followed by ulceration, developing into a sarcoma within fifteen months. The animal died in a month. They know of only one other instance of experimental sarcoma. This was induced by Marie, Clunet and Raulot-Lapointe in a rat; the tumor developed in nine months.

Rôle of the Thyroid in Eclampsia.—Moreira emphasizes that eclampsia is associated with disturbed functioning of the thyroid, either deficient or excessive functioning. Consequently, thyroid treatment cannot be used indiscriminately in all cases of eclampsia. The theory of a deficient thyroid function is not incompatible with the anaphylaxis theory.

Isolation of Tubercle Bacilli.—Ramos Passos used Löwenstein's method for cultivation of bacteria from 104 tuberculous sputums. Positive cultures were obtained in all. Of thirty three sputums, microscopically negative, the tubercle bacillus was isolated in two. (As summarized in The Journal, April 19, 1924, p. 1308, Löwenstein treats the sputum with the fivefold amount of a 40 per cent solution of sulphuric acid or of a 35 per cent solution of sodium hydroxide; washes the sediment three times, and then sows it on glycerolized potato or an egg medium.)

Encéphale, Paris

20: 629-700 (Nov.) 1925

*Muscle Tonus and Tendon Reflex. J. W. Langelaan.—p. 629.
Familial Spastic Paraplegia. G. Marinesco et al.—p. 645.
Tardy Dementia Praecox. G. Halberstadt.—p. 655.
Chronic Deliriums. P. Guiraud.—p. 663.
Diseases of the Midbrain. Dezwarte.—p. 674.
From the Normal to the Pathologic. E. and H. Biancani.—p. 683.

Muscle Tonus and the Tendon Reflex.—Langelaan presents evidence to show that the muscular tonus is the consequence of a reflex function, and that the mechanism of the tendon reflex is independent of the sympathetic fibers innervating the muscle. [This article was mentioned in The Journal, Nov. 7, 1925, p. 1522, when published in the *Nederlandsch Tijdschrift*, but the Netherlands word *pees* was mistranslated "foot" instead of "tendon."] Langelaan differentiates the contractile tonus and the plastic tonus, and states that the conclusions he presents are the result of twenty-five years of research, and they allow calculations with physical constants.

20: 701-764 (Dec.) 1925

*Amyotrophia in the Elderly. J. Lhermitte and M. Nicolas.—p. 701.
*Menstruation and Mental Disease. A. Repond.—p. 713.
Dissociation of Eye and Ear Reflexes. S. Messing.—p. 723.
Hysteria and the Emotional Temperament. M. Nathan.—p. 730.
*Gumma of the Pituitary. L. Broussilovski.—p. 734.
The Psychoses in Malaria. A. Perelmann.—p. 740.

Atrophy of Hand Muscles in the Elderly.—Lhermitte and Nicholas describe two cases of muscle atrophy limited to the thenar eminence of one or both hands in women, aged 78 and 82. The amyotrophia was not progressing, and the functioning of the hand was only slightly impaired. The sensibility of the affected area appeared intact; while the galvanofaradic contractility was abolished. Necropsy revealed atrophy of ganglion cells, and reduction of their numbers, in the anterior horns of the spinal cord. Six plates show the microscopic findings. There were no vascular lesions. This atrophy of the hand muscles seems to represent an abiotrophic degeneration as described by Gowers. The affection probably is not rare in the elderly.

Influence of Menstruation on Psychoses.—Repond observed the influence of menstruation on the mental condition of 102 insane women, eighty-five with dementia praecox. Contrary to certain authors, he did not find exacerbation of the insanity during the menses. He explains that the influence of menstruation would be felt in the emotional sphere, and the activity in this domain is reduced, especially in those with schizophrenia.

Gumma of the Pituitary Not Revealed by Clinical Signs.—Broussilovski's patient was a woman, aged 55, complaining of headache, impaired sight and cerebellar symptoms. The diagnosis of cerebellar tumor was confirmed at necropsy. Among other syphilitic lesions there was gummatous hyperplasia of the pituitary. The weight of the latter was twelvefold and its size twenty-five times larger than normal. Notwithstanding this, no clinical signs of a pituitary lesion had ever been noted. There were changes of the thyroid and ovary as well as of the liver, kidney and pancreas. He agrees with others that the anterior pituitary lobe does not take part in the fat, carbohydrate or water metabolism, since the urine of the patient had remained normal and there had been no obesity or cachexia. The absence of clinical manifestations might be explained by compensation from a kind of reciprocal balance between the insufficiencies of the endocrine glands.

Journal de Radiologie et d'Electrologie, Paris

9: 497-560 (Nov.) 1925

Diagnosis of Prevertebral Abscess with Pott's Disease. E. Sorrel and G. Mauric.—p. 497.
*Pulsating Sarcoma of the Sacrum. M. Béclère.—p. 503.
Supernumerary Left Cervical Rib. M. Colombier.—p. 508.

Roentgen-Ray Treatment of a Pulsating Tumor of the Sacrum.—Béclère applied the roentgen ray in a case of probable sarcoma of the sacrum in a young girl. Four exposures, each of 1,000 roentgen units (Solomon ionometer) were given at two day intervals. One series induced reduction of the tumor and general improvement within fifteen days. The series was repeated three weeks later, the roentgen ray applied to the subpubic region. The patient gained 5 Kg. within the year; she is able to remain on her feet twelve hours a day, and has no pain. The tumor has almost completely subsided. Only the abolition of the Achilles' tendon reflex and the induced amenorrhea still persist. Otherwise the cure has seemed complete to date.

Paris Médical

59: 37-52 (Jan. 9) 1926

Percussion: Study of Medical Acoustics. A. Gilbert et al.—p. 37.
Roentgenotherapy of Gastric Cancer. F. Fernández Martinez.—p. 46.

59: 53-84 (Jan. 16) 1926

Dermatology in 1926. G. Milian and L. Brodier.—p. 53.
Varioliform Acne; Its Treatment. R. Sabouraud.—p. 59.
Acne from Chlorine. J. Nicolas and M. Pillon.—p. 62.
Coal Tar in Treatment of Skin Diseases. R. Gonin.—p. 68.
Series of Cases of Skin Diseases. C. Audry.—p. 71.
Iodine in Treatment of Pyodermitis. M. Favre.—p. 73.
Drug Eruptions. G. Milian.—p. 77.

59: 85-100 (Jan. 23) 1926

Subcutaneous Calculi. G. Thibierge and R.-J. Weissenbach.—p. 85.
*Ultraviolet Ray Treatment of Phlebitis. E. Savini.—p. 90.
Origin of Congenital Volvulus. R. Valkanyi.—p. 95.
By-Effects of Puncture of the Pleura. E. Delbecq.—p. 98.

Ultraviolet Rays in Treatment of Phlebitis.—Savini's patient, a man aged 26, had phlebitis of the femoral vein (phlegmasia alba dolens) consecutive to appendicitis. Ultraviolet rays were applied every second day, starting with three minutes; gradually increasing by two to fifteen minutes. Local electric light baths were added by the ninth exposure. The baths were given daily, each for fifteen minutes. An ordinary bath with massage was taken on alternate days. Three weeks after the beginning of the treatment the patient was able to stand up; two weeks later to walk a little. A series of fifteen exposures was repeated, and the treatment completed during the summer by sun and mud baths. The patient recovered almost entirely, the chronic local edema subsiding until there was scarcely any difference between the aspect of the two legs. There had been no improvement under the usual measures previously applied for five months.

Presse Médicale, Paris

34: 49-64 (Jan. 13) 1926

*Strawberry Gallbladder. P. Lecène and P. Moulonguet.—p. 49.
*Intradermal Vaccination. C. Zoeller.—p. 52.
*Urea Secretion in Hypertension. A. Ravina.—p. 54.

Infectious Origin of Strawberry Gallbladder.—Lecène and Moulonguet comment on the mild form of cholecystitis called by MacCarthy "strawberry gallbladder." Macroscopic examination shows the presence of yellow granules, attached to the gallbladder mucosa. The granules are formed of lipoid cells; and this lipoid represents a cholesterol compound. This condition was found in fifteen of eighty-four gallbladders removed. The infectious origin can be revealed by the clinical history or operation. Similar granules occur also in the mucous membrane of the fallopian tubes with chronic infection. Removal of the gallbladder is indicated if the *vésicule fraise* is associated with gallstones or grave lesions of the organ. Otherwise cholecystostomy is the treatment of choice. In certain cases tube drainage may be required.

Dick Test and Intradermal Vaccination.—Local immunity from injection of streptococcus toxin, revealed by a negative Dick test, occurred after three injections in five subjects; after four in three, and after nine in two. The induced local immunity was not accompanied by general immunity. Thus the Dick reaction was positive if the intradermal injections were made each time in a different place. The phenomenon was manifest in two persons who voluntarily submitted each to forty injections. Three subjects were injected intradermally; also subcutaneously. While the Dick test became negative in one only after five and in two after nine intradermal injections, a negative reaction was obtained in them with two subcutaneous injections (300 Dick units). That an intradermal injection may induce appearance of antibodies as well as a subcutaneous injection was demonstrated by Gernez' intradermal vaccination with the typhoid bacillus in man; also by formation of hemolysins from intradermal injections in rabbits. The doses required with the intradermal injections were large, almost the same as with the subcutaneous.

Urea Secretion in Hypertension.—Ravina refers to Roesch's recent research made on 493 patients with high blood pressure. Ambard's formula was applied in 308; dosage of urea in 185. There was no appreciable change in secretion of urea. Evidently the kidney functioning was not responsible for the hypertension. The latter may be caused by physicochemical changes in the blood making it more difficult for the kidneys to break up the molecular complexes. Exaggerated work of the kidney may finally entail functional disturbance.

34: 65-80 (Jan. 16) 1926

*Classification of Diseases. F. Bezançon and A. Philibert.—p. 65.
Treatment of Bimalleolar Fractures. G. Leclerc.—p. 66.
*Chronic Nephritis. L. Bouchut and P. P. Ravault.—p. 67.
Modern Theory of Hysteria. M. Nathan.—p. 69.

Classification of Infectious Diseases.—Bezançon and Philibert distinguish seven groups of germs, namely micrococci, bacteria, bacilli, corynebacteria, mycobacteria, spirochetes and cytotropic invisible viruses. This classification, they say, is based not only on the shape of the germs, but also on their structure and mode of reproduction. The pathologic phenomena induced by each group are so far typical that the nature of the germ can be assumed from the clinical picture alone, in diseases of still unknown origin.

Chronic Nephritis Without Hypertension.—Bouchut and Ravault call attention to a special form of nephritis occurring in middle aged persons. They report two of their five cases of chronic nephritis with 2.64 and 2 Gm. urea per liter of blood, in which the arterial tension was normal, at times even below. Notwithstanding this fact there was a notable hypertrophy of the heart, revealed more by roentgenograms than by clinical signs. Necropsy showed interstitial sclerosis of the kidneys, enlargement of the heart and pericarditis; also small tuberculous foci in the lungs. The conditions creating this form of nephritis are so far not clear. There did not seem to be any connection between the lesions of the kidneys and those of the heart, although probably the same infection may have involved both organs. The course of this nephritis was about two years; it presented a progressing process, without tendency to spontaneous or therapeutic remissions.

34: 81-96 (Jan. 20) 1926

Insufficient and Excessive Activity of Glands. M. Garnier.—p. 81.
*Ligation of Gastric Arteries. X. Delore et al.—p. 83.
*Action of Epinephrine on the Vagus. Petzetakis.—p. 84.

Hemorrhage from Abnormal Vascularization of the Stomach.—Delore, Comte and Labry describe two cases of severe gastric hemorrhages associated with slight digestive disturbances. No ulcer or cancer of the stomach was found at the operation, but the gastric arteries were extremely large and tortuous and they were vigorously pulsating. This condition seemed to be restricted to the gastric arteries; the general arterial tension remained normal. The operation consisted in multiple ligation of the gastric arteries; combined with gastro-enterostomy when there was dilatation of the stomach. The hemorrhages stopped immediately after the operation, and there have been no recurrences to date, five years in one case and four months in the other. Previous medical treatment had been of no avail. The etiology of this *estomac vasculaire pulsatile* is still a question.

Epinephrine in Intracardiac and Intravenous Injections.—Petzetakis has been studying the influence of intravenous injections of epinephrine on the heart of young healthy subjects. It first stimulated the sympathetic nerves and intracardiac centers; then it stimulated the antagonistic parasympathetic nerves. The second phase appears to be much longer than the first. When the injection of epinephrine is preceded by atropine, the stimulation phase is manifest, but the changes in the auriculoventricular conduction and heart beats characteristic of the second phase fail to develop. Thus epinephrine appears to act on both the sympathetic and the parasympathetic, but predominantly on the vagus. The stimulation of the latter, however, is annulled by atropine. The blood pressure rose with small doses of epinephrine, while large doses induced hypertension, soon followed by hypotension. Intracardiac injections of epinephrine in anesthesia syncope should be used especially cautiously with chloroform. With this anesthetic, the revival of the heart beat may be followed by fibrillation and definite arrest of the heart. The epinephrine enhances the already existing irritation of the parasympathetic from the chloroform. He advises to use no more than 0.00025 Gm. of epinephrine, in warm saline solution, for the first intracardiac injection. This dose can be repeated, or increased afterward to 0.0005 Gm.

Schweizerische medizinische Wochenschrift, Basel

56: 49-72 (Jan. 23) 1926

*Thrombosis and Embolism. T. Wyder.—p. 49.
Radium Treatment of Cancer. E. Lüscher.—p. 55.

Thrombosis and Embolism.—Wyder points to the difficulties of the diagnosis of deep thrombosis. A slight edema of the inguinal region may indicate it, if the external iliac vein is affected. Mahler's sign (climbing pulse) is valuable, but not always present. Getting the patient up early or exercises done in bed can hardly prevent thrombosis. Embolism may occur during the exercise. Only a wedge-shaped bedpan should be used, to avoid overexertion.

56: 73-96 (Jan. 30) 1926

Thrombosis and Embolism in Obstetrics. T. Wyder.—p. 73. C'cn.
*Iodine Treatment of Hyperthyroses. F. Merke.—p. 78.
*Whooping Cough. E. Ziegler.—p. 84.
*Reaction to Large Doses of Dick's Toxin. E. H. Place and A. Bourcart (Boston).—p. 90.

Iodine Treatment of Hyperthyroses.—Merke confirms the excellent initial effects of compound solution of iodine in exophthalmic goiter. The optimum occurs after eight days, but the benefit is only temporary, and the condition becomes worse after the treatment is discontinued. Therefore he would use it only in preparation of the patient for surgical treatment of goiter.

Whooping Cough.—Ziegler reviews the hematologic findings in his seventy cases of whooping cough, including nineteen in the catarrhal stage. The increase in the absolute white count, with an absolute and relative lymphocytosis beginning already in the catarrhal stage, is typical. The lymphocytosis is probably of toxic-infectious origin. Mechanical causes cannot be incriminated since it does not occur with pseudopertussis. The absolute counts are sometimes very high. The disappearance of lymphocytosis indicates the transition from the toxi-infectious stage to the psychogenic neurotic. No bronchopneumonia occurred in the latter stage. Combination of the convulsive stage with bronchopneumonia, tonsillitis, colitis or abscesses causes an absolute and relative increase in neutrophils, with shifting to the left (Arneth).

Reaction to Large Doses of Dick's Toxin.—Place and Bourcart injected by mistake 6,000 skin doses of Dick's toxin in two patients. The injection was followed by moderate general disturbances and a typical scarlatinal rash, with tendency to petechiae, followed by desquamation. They conclude that Dick's toxin is identical with the scarlet fever toxin.

Chirurgia degli Organi di Movimento, Bologna

9: 329-532, 1925

Biologic and Social Aspects of Orthopedics. K. Biesalski.—p. 329.
Bennett's Fracture of Metacarpal Bone. S. Ciaccia.—p. 337.
Torsion Range of Long Bones. S. Grisanti.—p. 351.
Muscle Sequestra in Suppurating Myositis. F. Nassetti.—p. 378.
Destruction of Fifth Lumbar Root by Tumor. G. Faldino.—p. 391.
*Portable Device for Fracture of the Arm. C. Ingaramo.—p. 414.
So-Called Solitary Cysts of the Tibia. G. Ceccarelli.—p. 425.
Etiology of Köhler's Syndrome. G. Valtancoli.—p. 447.
*Lumbar Ribs. M. Camurati.—p. 457.
*Curving Osteotomy of Trochanter for Coxa Vara. L. Losio.—p. 469.
Resection for Sarcoma of the Radius. P. Marri-Caciotti.—p. 473.
*Treatment of Congenital Pseudarthrosis of Leg. D. Maragliano.—p. 485.
*Ancient Prostheses. V. Putti.—p. 495.
Roentgen-Ray Study of the Knee. P. Mainoldi.—p. 527.

Portable Device for Traction with Fracture of Arm.—Ingaramo gives an illustrated description of the simple apparatus he has found exceptionally useful in nineteen cases, allowing the patients to be up and about from the first. It consists of two light boards with a small pulley at the outer end. One is padded to fit into the axilla like a crutch, with spring and cord transmitting the traction to the crutch-head end. The second board is designed for the forearm to supplement the first, and can be applied axially, or at a right or oblique angle for lateral traction. It allows roentgenoscopy at any time, and gives better results, he says, than any other device in use, there being no abduction with it.

Lumbar Ribs.—This anomaly was detected in 1.22 per cent of 489 cases at the Rizzoli Institute. The patients complained of left sciatica or there was dorsal spondylitis or sclerosis of the posterior columns. The possibility of this anomaly should be borne in mind in puzzling vasomotor and painful disturbances, and possible isolated fracture of a transverse process.

Osteotomy for Coxa Vara.—Losio's roentgenograms show the still perfect results nearly seven years after application to a boy, aged 14, of his method of paracervical curvilinear osteotomy of the greater trochanter.

Congenital Pseudarthrosis.—Maragliano relates the excellent result he obtained with Reichel's method in a boy nearly 4 years old, now over 7. The pseudarthrosis was in the lower third of tibia and fibula, and the pedunculated bone flap was not separated until the fifty-first day, instead of the usual three weeks or less. Another innovation consisted in stretching the sciatic nerve three or four days before the first operation, hoping thus to stimulate the vital processes in the leg.

Ancient Prostheses.—Putti's article is accompanied by thirty-three illustrations. One shows a man with one leg and a long rod passing lengthwise through the lower half of the thigh, serving both as prosthesis and cane to lean on. It is from an Italian vase four centuries before Christ. The Talmud refers to wooden legs and artificial hands, and some of the iron hands of the Middle Ages or earlier contained mechanism allowing volitional control. He lists a number from the Florence and Milan museums, besides Götz von Berlichingen's iron hand of which there are two specimens extant.

Pediatria, Naples

34: 57-112 (Jan. 15) 1926

*Sedimentation Test in Tuberculosis. F. D'Asaro.—p. 57.
Diphtheria Immunization with Attenuated Germs. B. Adamo.—p. 71.
Hypothyroidism, Livedo and Ichthyosis in Congenital Syphilitics. M. Artom.—p. 75.
The Exudative Diathesis and Dentition. C. Gallo.—p. 89.
Etiology of Mumps. A. Bocchini.—p. 96.

Sedimentation Test in Tuberculosis.—D'Asaro found no acceleration of sedimentation of the blood in tuberculous children after intracutaneous injections of tuberculin. With subcutaneous injection of 1 mg. of tuberculin, the sedimentation speed was increased by 5 to 20 mm. The more pronounced the activity of the process, the greater was the acceleration.

Policlinico, Rome

33: 77-111 (Jan. 18) 1926

Pathology of Meckel's Diverticulum. E. Fronticelli.—p. 77.
*Simultaneous Bilateral Pneumothorax. Zuccòla.—p. 81. Idem. Giani.—p. 84.
*Procaine-Formaldehyde Test in Infectious Diseases. G. Tron.—p. 87.
Limitations of Quinine Prevention. A. Lusignoli.—p. 89.
*Malaria Treatment of Leukemia. Bini.—p. 89. Reply. Lucherini.—p. 89.
*Anopheles Infestation Without Malaria. G. Alessandrini.—p. 93.

Simultaneous Bilateral Pneumothorax.—Zuccòla as well as Giani uses a simultaneous pneumothorax of moderate degree. This procedure does not interfere with the respiratory exchange, and is chiefly indicated in progressive bronchopneumonic forms of tuberculosis.

Procaine-Formaldehyde Test in Infectious Diseases.—Tron applied Costa's procaine-formaldehyde test to the blood from sixty-two patients with infectious diseases. It was negative in measles, whooping cough, chickenpox and uncomplicated scarlet fever, and was positive with streptococcus tonsillitis.

Treatment of Leukemia by Inoculation of Malaria.—Bini points out that a favorable influence of accidental malaria infection on leukemia has been reported twice in the literature.

Anopheles Infestation Without Malaria.—Alessandrini believes that rice fields furnish such favorable surroundings for the larvae of anopheles that they acquire a resistance against malaria parasites.

33: 113-148 (Jan. 25) 1926

Two Cases of Hypernephroma. R. Carusi.—p. 113.
*Vicious Circle in Gastro-Enterostomy. R. Mosti.—p. 120.
Francke's Lines in Tuberculosis. N. Rinaldi.—p. 124.

Prevention of Vicious Circle in Gastro-Enterostomy.—Mosti finds that the vicious circle may be prevented by making the posterior inferior transmesocolonic gastro-enterostomy with exclusion of the pylorus, a short afferent loop, and vertical suspension.

33: 1-64 (Jan. 1) 1926. Medical Section

*Hemoglobinuria in Malaria. M. Ghiron.—p. 1.
Brazilian Espundia. G. Franchini.—p. 27.
Reducing Substances of the Cerebrospinal Fluid. C. Forti.—p. 35.
Flocculation in Syphilis. A. Dalla Volta.—p. 50.

Hemoglobinuria in Malaria.—Ghiron was able to hemolyze suspensions of erythrocytes from malaria patients in quinine solutions by addition of serums from four blackwater fever patients. With a known hemolytic serum, the reaction may serve to reveal latent malaria in a given suspect. On the other hand, a subject may be tested for his tendency to blackwater fever. Quinine treatment may be resumed if the reaction becomes negative.

33: 1-68 (Jan. 15) 1926. Surgical Section

Adenoma in Fowls. R. Calvanico.—p. 1.
*Parabiliary Stenosis. N. Lagravinese.—p. 13.
*Roentgen-Ray Examination of the Duodenum. F. Saraceni et al.—p. 50.

Parabiliary Stenosis of the Intestine.—Lagravinese gives an illustrated description of five cases in which intestinal obstruction was traced to relics of inflammatory processes in or around the biliary passages. Every process of the kind involves the bowel secondarily to some extent. With congenital periduodenitis, the bowel may be vigorous enough to overcome this hampering of its function until conditions of special strain lower the functional level; then symptoms of stenosis develop. The most common disturbance is from the duodenal angle being drawn up by adhesions. The diagnosis wavers between disease in the stomach, liver or gallbladder, symptoms from each predominating at different times, especially on return of symptoms after an operation for gallstones. The subjective symptoms are the same, but the site of the disturbance has changed from the biliary passages to the intestines.

Visualization of the Duodenum.—Saraceni, Antonucci and Celiberti emphasize the instructive findings with roentgenography after pouring a contrast suspension through the duodenal tube into the duodenum. The roentgenographs are taken with the patient in the ventrodorsal position, as this brings the duodenum closest to the negative. The tip of the tube is kept midway in the descending portion of the duodenum, and only a half or two thirds of the suspension is used at first, the rest being poured in while the preparations for the roentgenoscopy are being made. The examination is made at once, before any reflux or passage of the opaque fluid blurs the findings. To avert pyloric spasm, he gives a little sodium bicarbonate beforehand, and has the patient lie on his right side, the pelvis raised a little.

Riforma Medica, Naples

41: 1133-1156 (Nov. 30) 1925. Congress Number

*Occlusion of the Intestines. O. Margarucci.—p. 1133.
*Acute Occlusion of the Intestine. U. Stoppato.—p. 1139.
*Nontuberculous Disease of the Spine. G. Valtancoli.—p. 1153.

Occlusion of the Intestine.—Margarucci and Stoppato's comprehensive articles were read at the thirty-second Italian Surgical Congress to open the discussion on this topic. The proceedings are given in full.

Nontuberculous Arthritis of the Spine.—This was the subject appointed for discussion at the sixteenth Italian Orthopedic Congress. Valtancoli delivered the opening address on it. The details of the transactions are given.

52: 25-48 (Jan. 11) 1926

*Hypogenital Ascites. P. Stanganelli.—p. 25.
Spontaneous Rupture of the Gallbladder. C. Bertone.—p. 32.
Protein Therapy. T. Silvestri.—p. 34.
I. P. Pawlow. F. Piccininni.—p. 42.
Dystocia from Vulvar Fibrosarcoma. R. Calvanico.—p. 43.

Hypogenital Ascites.—Stanganelli differentiates from tuberculous peritonitis a syndrome described by Cruveilhier and by Castellino. The patients are young, present signs of hypogenitalism, thymic constitution or pluriglandular disturbances—especially thyroid insufficiency. The family history is negative, the general appearance is good (no tuberculous habitus), the abdomen is not tender, the temperature is normal and tuberculin tests are sometimes negative. The ascitic fluid has the characters of a transudate rather than of an exudate. It contains no tubercle bacilli. He uses organotherapy—especially thyroid and gonads—and claims to have obtained good results.

42: 49-72 (Jan. 18) 1926

Treatment After Prostatectomy. D. Taddei.—p. 49.
*Wassermann Reaction in Effusions. G. Pansini.—p. 51.
Ozonized Artificial Pneumothorax. O. Da-Rin.—p. 55.
Pathogenesis of Acute Arthritis. L. Di Natale.—p. 65.
Biologic and Hygienic Prevention. G. Breccia.—p. 67.
Lancisi on Medical Education. P. Piccinini.—p. 69.

Wassermann Reaction in Effusions.—Pansini found a positive Wassermann reaction only in those exudates and transudates which had been obtained from syphilitic subjects. It was never positive with a negative result of the serum test.

42: 73-96 (Jan. 25) 1926

Evolution of the Central Nervous System and Its Pathology. G. D'Abundo.—p. 73.
Resuscitating Cardiocentesis. O. Nuzzi.—p. 75.
Thyrotoxicoses and Neurasthenia. P. Marcovich.—p. 81.
*Transactions of Obstetric and Gynecologic Congress.—p. 89.
Tuberculosis in Origin of Ozena. M. Galli and E. Di Lauro.—p. 94.

Transactions of Obstetric and Gynecologic Congress.—The chief topics appointed for discussion at the twenty-fourth Italian Obstetric and Gynecologic Congress were "The Constitution and Gynecologic Diseases" and "Endocrine Diseases in Relation to Pregnancy."

Rivista di Clinica Pediatrica, Florence

24: 1-72 (Jan.) 1926

*Capillary Pressure and Hemorrhages. G. Frontali.—p. 1.
Intracranial Hemorrhages in the New-Born. D. Larini.—p. 35.
*Measles in Poliomyelitis. S. Tronconi.—p. 58.

Capillary Pressure and Hemorrhages.—Frontali found almost the same capillary pressure in infants (average 9.6 mm. of mercury) as in older children and in adults. Capillary hemorrhages appear in the bend of the elbow after release from compression of 250-200 mm. of mercury in infants; at 150 mm. in adults. In purpura, the hemorrhages appear with a lowering of the compression of the arm amounting to 50-20 mm. of mercury. The fragility of the capillaries was also increased in hemorrhagic nephritis. Immediately after the paroxysm in whooping cough, the capillary pressure was 16.2-29.6 mm. of mercury; hemorrhages appear only with simultaneously increased fragility of the capillaries.

Measles in Poliomyelitis.—Tronconi observed measles in two children with poliomyelitis (in one seventeen, in the other twenty-three days after the onset of the poliomyelitis). With the defervescence and disappearance of the eruption, the children began to improve. He compares his observation with the favorable action of malaria in general paresis.

Anales de la Facultad de Medicina, Montevideo

10: 621-740, 1925

*Pure Intestinal Spirochetosis. A. Sáenz.—p. 621.
Amebic Abscess in the Liver. D. Prat.—p. 673.
*Vegetative Nervous System in Asthma. V. Zerbino.—p. 722.

Intestinal Spirochetosis.—Sáenz gives several colored plates showing the findings in a case of pure intestinal spirochetosis that for eleven years had resisted vigorous treatments based on mistaken diagnoses. Sáenz says that when he saw the spirochetes swarming in the stools "it opened up a new world" for him. The benefit that followed even the first injection of neo-arsphenamine showed that he was on the right track. The cure was complete in two weeks, and has persisted for ten months to date. The same spirochete was discovered in a dental abscess in the patient. Sáenz' map shows that this spirochetal "dysentery" has been reported from nearly every country except Egypt, Mexico and Great Britain. The Burri and the Fontana-Tribondeau seem to be the best methods for detection of the spirochete. Experimental inoculation has never succeeded to date, he adds. Tentative arsenical treatment should be given even on mere suspicion of a spirochetal origin for diarrhea or dysentery.

Pharmacodynamic Study of Children with Asthma.—The variable and conflicting findings in children with asthma indicate an especially changeable imbalance of the vegetative nervous system, although generally there is parasympathetic predominance.

Semana Médica, Buenos Aires

2: 1205-1272 (Nov. 12) 1925

*Tuberculous Joint Disease. C. Robertson Lavalle.—p. 1209.
Blood Findings in Amebic Hepatitis. H. J. D'Amato.—p. 1233.
Pleurisy Complicating Artificial Pneumothorax. J. C. A. Mujica and H. López Alcoba.—p. 1236.
Acquired Alcoholism in Young Children. A. Segers.—p. 1238.
Massage in Retroflexion. S. E. Bermann.—p. 1240.
French Law to Protect Children of Wetnurses. A. Casotto.—p. 1243.
Staining Technic for Ameba in Sections. C. M. Ramirez Corria.—p. 1244.
Autoreactivation of Wassermann Reaction. C. A. Videla.—p. 1246.

Successful Treatment of Tuberculous Joint with Bone Implant Bridge.—Robertson Lavalle reports the cure of tuberculous arthritis of the knee and hip joint in five or six months. All the fifty children thus treated, aged 3 to 13, have free use of the joint, even those with old processes that had entailed subluxation. He buries in the subcutaneous tissue around the joint a row of narrow strips of bone, end-to-end. They are scarcely larger than a toothpick, and they do not touch the natural bone except above and below the joint, where the ends of the bone strip are implanted, for example, in the lower third of the femur and the upper third of the tibia. The strips are taken from the tibia of the other leg. The periosteum of the strips and of the natural bone envelops the strip completely. This guides and restricts the new formation of bone so it does not scatter. The strip is implanted in the spongiosa element of the natural bone, and this aids in rapid inclusion in the circulation. All the strips retained their vitality and grew together and in width, so that they looked like a single rib when finally removed six months later. The blood circulation through the implants and the stimulus to repair exert a promptly favorable influence on the general condition and the white swelling, relieving congestion and starting the process on the road to healing. The patient is kept in bed only twenty-five days, and is then encouraged to use the limb; at first it is like a wooden leg, but the functional use of the joint is soon regained and the child joins in play with his mates. Illustrations are given of thirteen cases, three to five years since the implant treatment, all without ankylosis. The implant in the femur and in the tibia slants and pierces the epiphyseal cartilage, just stopping short of reaching the joint.

Archiv für Verdauungs-Krankheiten, Berlin

36: 189-332 (Dec.) 1925

*Inflammatory Genesis of Peptic Ulcer. G. E. Konjetzny.—p. 189.
*Action of Pituitary Extracts on the Stomach. W. Schoendube and H. Kalk.—p. 227.
Cholecystography. M. Einhorn et al.—p. 245.
Visualization of the Gallbladder. C. M. Behrend.—p. 262.
Diagnosis of Peptic Ulcers. H. Ebeling and A. Müller.—p. 274.
Nosologic Place of Gastric and Duodenal Ulcer in Pathology. T. Bársony.—p. 299. Comment. I. Boas.—p. 305.

Inflammatory Genesis of Peptic Ulcer.—Konjetzny examined several hundred specimens of stomach and duodenum tissues resected in ulcer patients. He found no indication whatever of anemic necrosis or infarction of the mucous membrane due to circulatory disturbances. There was, however, evidence of diffuse or disperse inflammation in every case. Therefore he has returned to the oldest theory as to the origin of these ulcers (Cruveilhier). The primary erosions may heal and other ones may appear. This corresponds to the periodic subjective disturbances. The gastritis affects chiefly the antrum region—as might be expected with an exogenous origin. The erosions change into chronic ulcers under the influence of functional and mechanical factors. He does not believe that the lowered acidity following large resections is an advantage; germs thrive in such stomachs. He administers hydrochloric acid and pepsin after the intervention. The resection only removes the diseased mucous membrane, which is prone to ulcer formation.

Action of Pituitary Extracts on the Stomach.—Schoendube and Kalk found frequently a diminished gastric secretion between the tenth and the thirtieth minute after an injection of the pituitary extract.

Deutsches Archiv für klinische Medizin, Leipzig

150: 1-126 (Jan.) 1926

B. Naunyn. F. Müller.—p. 1.
*Minimum Protein Requirement. E. Krauss.—p. 13.
*Studies on the Stomach. B. Stuber and A. Nathansohn.—p. 60.
Acid and Sodium Chloride in the Stomach. F. Delhougne.—p. 70.
*Gastric Secretion After Exertion. F. Delhougne.—p. 78.
Brain Disease and Menstruation. F. Hoff.—p. 83.
Pernicious Anemia in Lymphatic Aleukemia. K. Brucke.—p. 92.
Healing of Sepsis. O. Müller.—p. 105.
*The Colon Bacillus and Pernicious Anemia. S. Cohn.—p. 112.
"Technic for Percussion." H. Dietlen.—p. 123.

Minimum Protein Requirement.—Krauss rates the minimum nitrogen requirement in adults during rest in bed and caloric food value of 150 per cent of the basal metabolic rate at 1.2-1.3 Gm. per square meter of surface and day. The nitrogen requirement is only 0.9 Gm., if the total food value is 300 per cent of the basal rate. Alcohol in as large amounts as 1 Gm. or more per kilogram did not change the requirement, nor the proportion of excreted substances. Consequently, its toxic action on the body proteins is highly improbable. Hyperthyrosis has a normal minimum protein requirement and normal elimination of creatin. Typhoid and febrile tuberculosis increase the minimum two or threefold. The sulphur-nitrogen ratio in the urine is 1:7 in minimum conditions; 1:10.7 in fever, and 1:15 in fasting. Parenteral injections of proteins change the minimum only if they cause fever.

Studies on the Stomach.—Stuber and Nathansohn attribute to the HCO_3 ion a stimulating action on the gastric secretion. Subcutaneous injections of 1 mg. of histamine increased the acidity and peptic power in a stomach which had not reacted sufficiently to bouillon. They advise to try both methods in suspected achylia cases.

Gastric Secretion After Exertion.—Delhougne observed in strong muscular exertion a decrease of the alkali reserve of the blood plasma, together with an increase in the gastric secretion and acidity. Only the latter change can be prevented by atropine. Mental work had no influence.

The Colon Bacillus and Pernicious Anemia.—Cohn found that repeated treatment of colon bacilli with solutions of sodium bicarbonate killed them. The colon bacilli cultivated from the duodenum of three pernicious anemia patients were less resistant to it than other strains.

Deutsche medizinische Wochenschrift, Berlin

52: 133-178 (Jan. 22) 1926

*Experimental Basis of Sanocrysin. F. Neufeld.—p. 133.
*Clinical Use of Sanocrysin. F. Kraus et al.—p. 134.
*Sanocrysin in Pediatrics. Czerny and Opitz.—p. 136.
*Results of Sanocrysin Treatment. U. Friedemann et al.—p. 138.
Sanocrysin in Pulmonary Tuberculosis. K. Henius.—p. 141.
*Cultivation of Tubercle Bacilli. E. Jacobsthal.—p. 144.
*Surgery of the Carotid. F. Brüning.—p. 145.
*Serologic Test for Echinococcosis. L. Horowitz-Wlassowa.—p. 147.
*Action of Arsphenamines. J. Schumacher.—p. 148.
*Tenderness of Abdominal Skin. Strecker.—p. 150.
*Tenderness of the Hypogastrium. R. von den Velden.—p. 150.
Cyst on the Penis. I. Hajós.—p. 151.
Diagnosis of Gonorrhea. A. Cohn and F. Simon.—p. 151.
Scabies Endemic in Institution. S. Levy.—p. 151.
Treatment of Syphilis with Metals. K. Heymann.—p. 152.
German Population Statistics. E. Roesle.—p. 153.
Public Hygiene in Budget. Solbrig.—p. 155. Idem. Wolff.—p. 156.
Bill on Professional Questions. S. Alexander.—p. 157.

Experimental Basis of Sanocrysin.—Neufeld concludes from his experiments on large animals that a curative action of sanocrysin can be expected only within narrow limits. Small doses had better effects than large ones. He emphasizes the low virulence of the cultures used by Møllgaard. He has observed repeatedly a spontaneous cure after injection of tubercle bacilli in cattle. He is skeptical as to Møllgaard's theory on the action of the added antiserum.

Clinical Use of Sanocrysin.—Kraus, Czerny and Friedemann, who form together with Neufeld the German commission on Sanocrysin, review the precautions necessary for the treatment. They consider the antiserum as superfluous.

Sanocrysin in Pediatrics.—Czerny and Opitz tried Sanocrysin treatment for one year on twelve children. Eleven of them are dead and one seems to be incurable. They think that the six patients with meningitis or miliary tuberculosis would have died in about the same time in any event. They have, however, the impression that most of the others (with the exception of one case) would have lived longer without the treatment. They do not exclude the possibility of a favorable effect in other types of tuberculosis, or with other methods of administration, but they feel sure that Sanocrysin has not solved the problem of treatment of tuberculosis.

Results of Sanocrysin Treatment.—Friedemann, Kwasniewski and Deicher obtained a remarkable improvement in nineteen out of fifty-four cases of pulmonary tuberculosis. They had to abandon the strong doses originally suggested by Secher. Recent exudative types seem to be best suited for this treatment.

Cultivation of Tubercle Bacilli.—Jacobsthal recommends intracutaneous injection of the material in guinea-pigs and cultures from the tubercle (which appears in eleven to fourteen days) on Besredka's fluid egg medium. A 10-20 per cent solution of sodium hydroxide serves to kill other germs.

Surgery of the Carotid.—Brüning ligated the right common carotid and both its branches on account of an aneurysm. The operation was followed by Horner's syndrome, and two days later by left hemiplegia, persisting for a few weeks. Ophthalmoscopic examination revealed a passive hyperemia. He believes that in such cases a change of the vasomotors entails an edema of the brain, and thrombosis of the veins may follow. In other cases the late hemiplegia may be due to progressing thrombosis and arterial embolism (Perthes). The prognosis is unfavorable here. In a third group the collateral circulation is insufficient. These patients die from the sequels of the anemia of the brain.

Serologic Test for Echinococcosis.—Horowitz-Wlassowa had eighteen positive results with the Ghedini-Weinberg test in twenty cases of echinococcosis. The findings were negative in sixty-two controls. She recommends the use of active serum. The antigen spoils in four or five months.

Action of Arsphenamines.—Schumacher had found that the disodiumphenolate of arsphenamine produced by action of sodium hydroxide on arsphenamine is kept in solution for a while in the circulating blood by the presence of the alkali but is slowly decomposed by the carbon dioxide and salts of alkalis. The insoluble arsphenamine base is the result of this decomposition. The skin produces carbon dioxide, and *contains much calcium and lipoproteins. This causes an* elective precipitation and fixation of the arsphenamine base. The latter kills the spirochetes locally, but the rest of them leave the skin and locate in other organs. This is the explanation why subtherapeutic doses of arsphenamine and other similar preparations may influence apparently favorably the skin manifestations of syphilis without curing the disease.

Tenderness of Abdominal Skin.—Strecker advises to squeeze the abdominal skin in order to differentiate between tenderness and rigidity due to intra-abdominal disease and that from hyperesthesia of the skin. Velden concludes from his long experience with this old method that the tenderness of the skin of the hypogastrium and hips to slight pinching is a phenomenon of adipositas dolorosa. It is frequent with intestinal spasmophilia. In examining a blood slide we find lymphocytosis and eosinophilia. The internist usually does not see these patients until after they have been operated on.

Medizinische Klinik, Berlin

22: 121-158 (Jan. 22) 1926

Acute Osteomyelitis. O. Nordmann.—p. 121.
Arsphenamine Dermatitis G. Stümpke.—p. 124.
Tuberculosis Following Trauma. E. Suess.—p. 130. C'td.
Otogenous Diseases of the Temporal Bone. Charousek.—p. 132.
*Tetanus After Criminal Abortions. G. H. Schneider.—p. 134.
Intracisternal Injection of Caffeine. J. Jánossy.—p. 136.
*Relative Sexuality and Fecundation. M. Hartmann.—p. 137.
*Colloidal Gold in Syphilis. H. Wendt.—p. 138. Begun, p. 100.
Apoplexy and Myxedema After Occupational Injury. Von Schnizer.—p. 141.
Roentgen-Ray Diagnosis. L. Freund.—p. 145.
Survey on Psychology, etc. W. Stekel.—p. 148. C'cn.
Health Board of the League of Nations. B. Möllers.—p. 156.

Tetanus After Criminal Abortions.—Schneider reports two deaths from tetanus after criminal abortion. The second patient improved at first after extirpation of the uterus, but died later from a gas phlegmon. The mortality from puerperal tetanus in 111 cases in the literature was 91 per cent.

Relative Sexuality and Fecundation.—Hartmann briefly reviews the theories on fecundation. Amphimixis is only a sequel of a part of fecundation. He has refuted the rejuvenation theory by cultivating eudorina algae for 3,000 generations (in ten years) with exclusion of fecundation. The only remaining so-called sexuality hypothesis (Bütschli-Schaudinn) presupposes a potential bisexuality of every protozoon or of every germinal cell. He demonstrated recently on the gametes of two species of algae that the sexuality of these gametes is only relative. In fourteen out of 400 cases strongly male gametes copulated with weakly male gametes—the latter acting as the female—and strongly female with weakly female ones—the latter behaving like the male. He concludes that at present the theory of sexuality as the cause of fecundation is the only one which explains the facts.

Colloidal Gold Curve in Syphilis.—Wendt sees the advantage of the colloidal gold reaction in its sensitiveness. It may indicate the necessity for further treatment even if all the other tests are negative. Yet it does not always signify a pathologic change in the central nervous system. The curves are not characteristic. Only their localization far to the right excludes syphilis. An early and strongly positive reaction—especially of the so-called general paresis type—in syphilitics indicates a bad prognosis.

Münchener medizinische Wochenschrift, Munich

73: 135-180 (Jan. 22) 1926

*Liver Diseases in Syphilis. K. Zieler.—p. 135.
Allergic Conditions in Syphilis. S. Bergel.—p. 139. C'td.
Status Asthenicus Adiposus. K. Vogeler.—p. 141.
*Permanent Cures of Gastric Cancer. Brodnitz.—p. 145.
*Cerebrospinal Fluid in Pathogenesis of Uremia. E. Becher.—p. 146.
Histology of Sympathetic Ganglions. K. Terplan.—p. 150.
Diseases of Lacrimal Apparatus C. H. Sattler.—p. 152.
Phototherapy in the Future. F. W. Schmidt.—p. 154.
Transplantation of the Ovaries. P. Sippel.—p. 155.
Reconstruction of Malleolar Fork After Fracture. Schneider.—p. 156.
"Microtest for Blood Sugar." E. Komm.—p. 157.
Gymnastics in Schools. A. Blencke.—p. 157.
Health Examinations. O. Neustätter.—p. 159.

Liver Diseases in Syphilis—Zieler declares that the syphilis—not the arsphenamine—is the most frequent cause of jaundice occurring during the treatment. The treatment has only a provocative action on the latent disease. Yellow atrophy of the liver may develop in spite of the treatment, or because of it (with too large single doses). It is, however, more frequent in the untreated cases.

Permanent Cures of Gastric Cancer.—Brodnitz observed recovery lasting for six to twenty-five years in four of his twenty-one operative cases of carcinoma. The histology of the tumor throws no light on the prognosis. His technic was the regular Billroth II, and the only personal difference consists in giving with short intermissions, for several years one pill daily from the following prescription: ferrous sulphate, 6 Gm.; arsenous oxide, 0.12 Gm.; quinine sulphate, 2.5 Gm.; to make 100 pills.

Cerebrospinal Fluid in Pathogenesis of Uremia.—Becher tried to obtain further evidence for Walter's theory of the pathogenetic significance of an increased permeability of the meninges in uremia. He found normally low grades of the xanthoprotein reaction in the cerebrospinal fluid. The level was also low in certain cases of uremia (for instance, one patient with 0.561 per cent urea in the blood who died, according to his statement, without uremia symptoms). It increased in the cerebrospinal fluid only in the gravest cases shortly before death. He attributes the onset of the uremic coma to this penetration of the meningo-encephalic barrier by toxic products of intestinal putrefaction.

Wiener klinische Wochenschrift, Vienna

39: 93-120 (Jan. 21) 1926

*Pituitary Tumors. O. Hirsch.—p. 93.
Surgery of Diaphragmatic Hernia. P. Walzel.—p. 95.
Anesthesia in Infants. P. Erlacher.—p. 98.
*Therapeutic Malaria. F. Mras.—p. 101.
Treatment of Syphilis in Infants. P. Widowitz.—p. 102.
*Children Who Do Not Eat Well. K. Peyrer.—p. 106.
Pediatrics and Research on Heredity. IV. S. Weiss.—p. 107.
Medicolegal Function of the Practitioner. Meixner. Supplement.—pp. 1-14.

Pituitary Tumors.—Hirsch emphasizes the ocular type he described in 1911. He now has a personal record of 100 *surgical interventions in such cases. The general appearance* of the patient is not much changed, but careful examination reveals practically always disturbances of the sex function and frequently loss of the beard and of the axillary and pubic hair, and low temperature. The most important symptom is the impairment of vision and the restriction of the visual field. He found temporal (bitemporal) hemianopia in 84 per cent of his cases, and primary atrophy of the optic nerves in 89 per cent. Choked disk and optic neuritis were found only in 11 per cent of his patients. In such cases, he diagnoses a pituitary tumor only if all the other symptoms are present. Temporal hemianopia with restriction of the visual field is almost pathognomonic for pituitary tumors. Visual disturbances are a differential sign between benign and clinically malignant acromegaly. The former is due to an eosinophilic adenoma growing only toward the sphenoidal sinus. The clinically malignant form is associated with tumors growing upward and compressing the chiasma. Hypertrichosis and headaches are typical of the former. Disturbed sex function is the rule with the latter. The hair displays here more frequently a tendency to disappear than to overgrow.

Therapeutic Malaria.—Mras used as a routine procedure intravenous injection of 5 cc. of blood taken at the height of the malarial attack. The average incubation was seven days, the shortest two days, the longest eighteen days. The attacks returned with practically absolute regularity every forty-one hours in the 100 women treated at the clinic for venereal diseases. Spontaneous recovery from the malaria was observed in 50 per cent of the patients (average eight attacks). The rest recovered after four intravenous injections of 0.5 Gm. of quinine.

Children Who Do Not Eat Well.—Peyrer discusses various methods how to make children eat. Discipline is one of them, and one has to keep one's word after threatening with spanking. Regular hours are essential. Playing during the meals and spilling of the food should not be permitted. The frequently used method of distraction by telling stories of all sorts of good animals that open their mouths does not work always. A stimulation method—letting the infant touch the bottle and then drawing it away repeatedly until he grabs it eagerly—is good. Suggestion of appetite and the use of a little starving as a disciplinary measure for delinquencies not connected with meals may help. Change of surroundings (grandparents, hospital) may become necessary. An education for self-regulation of the food intake—and with the allowance of three dishes which the child may refuse—is advantageous. No dislike of the dishes should be expressed by adults during the meals. A cheerful atmosphere is an important factor.

Zeitschrift für Tuberkulose, Leipzig

44: 97-176 (Jan.) 1926

*Tuberculosis Mortality in Chemnitz. B. Hauffe.—p. 97.
The Health Officer and Tuberculosis. F. Reichardt.—p. 102.
Recuperation. M. Rothfeld and M. Meissner.—p. 110.
Institutional Treatment of Tuberculosis. W. Hinzelmann.—p. 120.
Recuperation Treatment. M. Rothfeld.—p. 122.
Tuberculosis in Children in Foster Homes. Schoedel.—p. 133.
Baths in Tuberculosis. P. Clemens.—p. 136.
*Congenital Tuberculosis. R. Kochmann.—p. 141.
Serodiagnosis of Tuberculosis. H. Hippe.—p. 143.
Roentgen Ray Treatment of Pulmonary Tuberculosis. Schilling.—p. 150.
Racial Hygiene. Zurukzoglu.—p. 152. Reply. J. Petruschky.—p. 154.

Tuberculosis Mortality in Chemnitz.—Hauffe's statistics show that the mortality from tuberculosis became gradually lower in the years 1892-1912 (from 26.56 to 12.64 per ten thousand inhabitants); then it rose very slightly till 1916, and then abruptly till 1918 (31.36 per ten thousand). After this the death rate dropped again (11.8 in 1925).

Congenital Tuberculosis.—Kochmann reports a case of undoubtedly congenital tuberculosis. The infant had been isolated immediately after birth. She had a positive tuberculin reaction on the twenty-sixth day, and a roentgenologically manifest pulmonary focus in the sixteenth week. There were no other clinical signs except a slight cough and twice a subfebrile temperature. At the date of the report, she was 128 days old, had gained 1,600 Gm. in weight and 10.5 cm. in length.

Zeitschrift für urologische Chirurgie, Berlin

19: 1-126 (Jan. 7) 1926

*Bilharziasis. Tsykalas.—p. 1.
Horse-Shoe Kidney. W. Boss.—p. 15.
Constitution and Urology. Mkrtyschjynz and Lewant.—p. 28.
Ambard's Coefficient. J. von Borza.—p. 39.
*Vaccine Diagnosis of Gonorrhea. H. Köhler.—p. 54.
*The Impulse for Micturition. J. Steiner.—p. 63.
Diverticula of the Urethra. J. E. Halperstein.—p. 79.
Migration of Foreign Body into Bladder. G. Monaschkin.—p. 87.
Cystic Degeneration of the Kidney. J. Gottlieb.—p. 95.
Dystopia of Kidneys. J. Gottlieb.—p. 100.
Vesico-Ovarian Fistulas. R. Fronstein and M. Sserdjukoff.—p. 102.
Review on Syphilis of the Bladder. O. A. Schwartz.—p. 117.

Bilharziasis.—Tsykalas claims priority in having used emetine in treatment of schistosomiasis. The diagnosis is easy, if the physician suspects the cause—for instance, in anemia or hematuria.

Diagnosis of Gonorrhea by Intracutaneous Injections of Vaccine.—Köhler made intracutaneous injections of 0.15 cc. of gonococcus vaccines containing from three to ten billions of germs per cubic centimeter. Infiltrations lasting for more than twenty-four hours seemed to be specific for present or past gonorrhea.

The Impulse for Micturition.—Steiner has been investigating the impulse for micturition. He provoked it from the bladder and from the posterior urethra. It always precedes urination, even with voluntary evacuation of the bladder, and induces contractions of the bladder.

Zentralblatt für Chirurgie, Leipzig

53: 193-256 (Jan. 23) 1926

*Surgery of the Stomach. M. Madlener.—p. 194.
Concretion of Plica Alaris with Femur. N. Grzywa.—p. 198.
Treatment of Burns. G. Frattin.—p. 201.
*Extirpation of the Scapula. E. Pólya.—p. 203.
*Autohemotherapy in Bronchitis. W. Rieder.—p. 205.
Cryptoscope for Fractures. M. Sgalitzer.—p. 208.
Urethral Calculi. F. Lemperg.—p. 214.

Surgery of the Stomach.—Madlener has discarded—except in cancer cases—the use of clamps for provisional occlusion of the lumen of the stomach or upper parts of the small intestine during operation. Although the stomach was not always completely emptied before the intervention, and some of the contents came into contact with the peritoneum, only one of his 142 patients died from peritonitis. In this one fatal case the clamp could not have been used anyway (manual dilation of the cardia from the stomach). Five other patients died from other causes.

Extirpation of the Scapula.—Pólya prefers a total rather than a partial excision of the shoulder blade in cases of tumors. He used in one such case a pointed end of the clavicle for fixation of the humerus.

Autohemotherapy in Bronchitis.—Rieder saw no influence of autohemotherapy on postoperative pulmonary complications in the majority of his patients. Systematic breathing exercises for several days before the intervention are recommended.

Zentralblatt für Gynäkologie, Leipzig

50: 129-192 (Jan. 16) 1926

*Virulence of Streptococci and Abortions. H. Küstner.—p. 129.
*Virulence Test and Mortality. E. Pribram.—p. 137.
*Virulence Test in Gynecology and Obstetrics. E. M. Fuss.—p. 140.
*Virulence Test in Puerperal Disease. L. Bublitschenko.—p. 155.
*Treatment of Leukorrhea. H. Naujoks and B. Behrens.—p. 160.
Charcoal Treatment of Cervical Catarrh. F. C. Geller.—p. 165.
Treatment of Leukorrhea. E. Puppel.—p. 168.
*Gonorrhea and Acidity of the Vagina. P. Caffier.—p. 171.
Lactic Acid Formation. J. Polonsky.—p. 180.

Virulence of Streptococci and Treatment of Abortion.—Küster emphasizes the theoretical importance of his method of increasing the virulence of streptococci in vitro. Such a possibility is also present in vivo, especially in the retained fragments of the placenta which are not in continuous contact with the blood. Because of the interaction between the macro-organism and the germs, he suggests to divide the germs in three classes; the highly virulent, which grow in any blood; the virulent, which grow in foreign blood, but not in the blood of the patient from whom they were obtained; and the avirulent, which do not grow in any blood. Because of the possibility of increase in virulence, he pleads for cautious removal of the retained fragments of the placenta, except with general infection.

Virulence Test and Mortality.—Pribram made Philipp's virulence test with vaginal and cervical germs in 105 obstetrical and gynecologic interventions. All the women with highly virulent streptococci healed smoothly; some of those with "avirulent" germs had postoperative complications. He thinks that any attempt to determine the prognosis by one laboratory method is futile.

Virulence Test in Gynecology and Obstetrics.—Fuss concludes from his material of 516 cases that Ruge II and Philipp's virulence test furnishes a good warning sign. A positive test indicates a great probability of grave infection; a negative test usually excludes it, except when the infection is due to anaerobic microbes. He therefore supplements the test in this direction.

Virulence Test in Puerperal Disease.—Bublitschenko regards the Ruge-Philipp test as valuable only in addition to other data. Phagocytosis in the lochia is another good diagnostic and prognostic sign.

Lactic Acid Treatment of Leukorrhea.—Naujoks and Behrens add sodium lactate to a solution of lactic acid. It acts as a buffer, and enables the physician to use a larger quantity of the acid with a low and constant degree of acidity.

Gonorrhea and Acidity of the Vagina.—Caffier confirms only partially Danin's findings. Except with a purely urethral or a fresh gonorrhea and menstruation, the vaginal reaction was never strongly acid in gonorrhea. An alkaline reaction (to litmus) may occur, however, in 30 per cent of cases of leukorrhea of other origin.

Zentralblatt für innere Medizin, Leipzig

47: 73-96 (Jan. 23) 1926

*Lumen of Vessels and the Circulation. G. Ganter.—p. 74.
*The Blood Calcium in Diabetes. E. Kylin.—p. 79.

Lumen of Vessels and the Circulation.—Ganter estimates the changes of lumen of the blood vessels by the velocity of the decrease in pressure after clamping the central part of an end artery. He observed a widening of the lumen after peripheral asphyxia, while it became extremely narrow after central asphyxia. The latter was more pronounced with retention of carbon dioxide than with a lack of oxygen. The peripheral asphyxia reaction plays only a minor rôle in the pathologic conditions usually occurring in man The blood pressure is to a large extent independent of the width of the blood vessels: The frequency of the heart beat—or, to be more exact—the blood output from the heart is just as important. The sympathetic as well as the parasympathetic is irritated by asphyxia. The tonus of the entire smooth musculature seems to be increased ("anatonia").

The Blood Calcium in Diabetes.—Kylin found a high level of blood calcium and a low potassium-calcium ratio in diabetics with a low blood pressure The blood calcium was high in only one of his diabetes patients with hypertension. The potassium-calcium ratio is usually high in these cases

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 141 228 (Jan 9) 1926

*Vaccine in Whooping Cough H M Brouwer Frommann.—p 142
Enlargement of Lymph Glands with Mammary Tumors G C van Walsem—p 148
Psychology of the Melancholia Syndrome J M Rombouts—p 150
Origin and Import of Infarcts in the Placenta D van Vugt—p 157.
*Action Tremor in Parkinson's Disease H de Jong—p 166

Vaccine Therapy of Whooping Cough.—The thirty-eight children under the age of 3 in an institution all contracted whooping cough from one child that had been exposed All the others were given preventive vaccine injections as soon as the disease was recognized It did not prevent the development of the disease, but it was in such a mild form in all that Brouwer-Frommann says that the conclusion seems justified that the vaccine had attenuated the whooping cough infection

The Tremor in Paralysis Agitans.—De Jong's extensive research has led to the differentiation of three types of tremor in Parkinson's disease and to the decision that a true intention tremor, like that of multiple sclerosis, does not occur in shaking palsy The tremor during rest and the tremor started by any movement or mental impression—the action tremor as he calls it—and the periodic alternation of these two types as well as the transitions between them are shown in the tracings reproduced The action tremor is started by holding a certain attitude as well as by a movement, and is thus both static and locomotor. He found the action tremor pronounced also in a case of cerebellar tumor It may persist for some time after conclusion of the movement which started it, otherwise the tracing resembles that of a clonus The resemblance between the intention tremor and the action tremor has prevented the recognition of the latter before.

Acta Tuberculosea Scandinavica, Copenhagen

1: 287 382, 1925

Auscultation in Tuberculosis V. Seppanen—p 287.
*Small Doses of Sanocrysin G E Permin—p 306
Sanocrysin in Pulmonary Tuberculosis J Gravesen.—p 326.

Small Doses of Sanocrysin.—Permin begins with 0.5-0 1 Gm and increases the dose cautiously to 1 Gm He discards the antiserum, except with Sanocrysin shock

Hygiea, Stockholm

87: 849 880 (Dec 15) 1925

Value of Oxygen Treatment in Acute Infectious Disease of the Respiratory Passages in Children. N Johannsen—p 849.

Norsk Magazin for Lægevidenskaben, Oslo

87: 1-112 (Jan) 1926

*Uterine Hemorrhages in Young Virgins H Natvig—p 1.
Erythema Nodosum and Pulmonary Tuberculosis Hambro—p 18.
*Weather in Relation to Genius Epidemicus A Magelssen—p. 23
Sarcoma in Choroid and Transillumination of Sclera Holth—p 27.
*Syphilitic Disease of the Stomach S Widerøe—p 31.
*Case of Volvulus of the Stomach N. Helsingen—p 37.

Metrorrhagias and Menorrhagias in Young Virgins.—Natvig reports the details of sixteen cases, some very serious, in which he cured the tendency to hemorrhage by curetting plus local application of iodine or formaldehyde solution In six of the girls there was succulent hyperplasia of the body of the uterus; endometritis with fetid discharge in another; one of the patients belonged to a bleeder family, her mother and sisters displaying the same tendency to excessive bleeding from extraction of a tooth, for instance, although menstruation was approximately normal in all. In four others the body of the uterus was very hard and the endometrium closely adherent, so that curetting brought away very few scraps. In this group he found a single application of the 40 per cent solution of formaldehyde promptly effectual. The uterus itself seemed to be of the fetal or infantile type, but the other genital organs seemed to be normal. In some of the cases mental, psychologic or nervous symptoms suggested endocrine derangement, and thyroid plus ovarian extract was given in two cases with good effect. In another case the local treatment had been only of transient benefit but a cure was realized under the thyroid plus ovarian extract. In only one instance was the local treatment completely futile; pituitary treatment then proved effectual but only for a short period Two patients are still under treatment. Menge uses formaldehyde but only in a 10 per cent solution, so that several applications are necessary. The 40 per cent solution answers the purpose with a single application. Under a little ether the patient is spared even the knowledge of the intervention on the genital organs, and Natvig says he has never witnessed any injury from the formaldehyde. A strip of gauze, 10 or 12 cm long, is dipped in the fluid and carried into the uterus like a tampon, and it is left in the uterus for one to three minutes The immediate effect is a vigorous contraction of the uterus which is felt by the patient—unless under the influence of an anesthetic—like a brief labor pain In one adult woman he left the gauze in the uterus for ten or twelve minutes, as the hemorrhages had been peculiarly rebellious A week later part of the uterine mucosa was cast off, resembling the membranes with dysmenorrhea membranacea, but there was no return of the hemorrhages, and menstruation has been normal since If the curet brings considerable scraps, he applies iodine; if curetting brings very little, he applies the formaldehyde, and uses the latter alone if recurrences compel a second intervention In conclusion he warns not to be misled by the current notions on endocrine participation to neglect local treatment, as this is directly indicated, and may cure at once.

Genius Epidemicus.—Magelssen in this eighth instalment of his study of weather conditions in regard to morbidity and mortality, charts the findings with acute articular rheumatism at Oslo in three year periods since 1840, compared with the weather statistics The curves show that the disease increased regularly in frequency when the weather was colder than the average and decreased regularly in warmer years. With normal temperature, the morbidity also decreased regularly. This correspondence between the above normal, below normal and normal mean temperatures over long periods of time has now been demonstrated he says for a number of diseases in which chilling may be a factor.

Syphilitic Disease of the Stomach.—Widerøe's patient was a man, aged 35, who had presented periods of symptoms suggesting gastric ulcer during the last six years. An exploratory laparotomy revealed six ulcers in the stomach. The largest was excised and the operation concluded with gastro-enterostomy. The cure seemed to be complete but a gumma developed on the leg nearly four years later, and there is little doubt that the six ulcers in the stomach were of syphilitic nature At the time of the operation there was absolutely nothing to suggest this.

Volvulus of the Stomach.—On the diagnosis of ileus, the laparotomy revealed that the stomach had twisted on its axis, the greater curvature to an extent of 180 degrees forward and upward Difficulty in swallowing, retching without vomiting, and a splashing sound in the epigastrium had been the main symptoms in the man, aged 60, complaining of sudden and intense pain in the epigastrium. The wall of the stomach was thin as paper and the serosa of the posterior aspect, found in front, had ruptured at several points. The torsion was easily corrected after puncture had released about 2 liters of fluid from the stomach